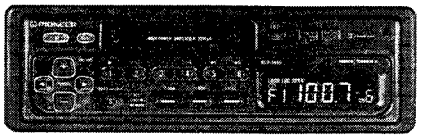
Service Manual

PIONEER®
The Art of Entertainment

KEH-1400/X1M/UC



ORDER NO.
CRT1798

HIGH POWER CASSETTE PLAYER WITH FM/AM TUNER

KEH-1400 X1M/UC
KEH-1450 X1M/ES
KEH-1311 X1M/UC
KEH-1100 X1M/UC
KEH-1150 X1M/ES

HIGH POWER CASSETTE PLAYER WITH FM/MW/LW TUNER

KEH-1300 X1M/EW
KEH-1300SDK X1M/GR
KEH-1400 X1M/IT

NOTE:

- **See the separate manual CX-644(CRT1800) for the cassette mechanism description.**
- **The cassette mechanism assy employed in this model is one of X-2M series.**
- **Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.**
- **For the service mentioned in this manual, the special tools GGD1056 and GGD1100 have to be used. See the sections "Adjustment" on how to use these tools.**

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K-FFM. JAN. 1996 Printed in Japan

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1. SAFETY INFORMATION

● KEH-1400/X1M/UC,1311/X1M/UC,1100/X1M/UC

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

FM tuner (KEH-1450, 1150)

Frequency range	87.5 — 108 MHz
Usable sensitivity	11 dBf (1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity	16 dBf (1.7 µV/75 Ω, mono)
Signal-to-noise ratio	70 dB (IEC-A network)
Distortion	0.3 % (at 65 dBf, 1 kHz, stereo)
Frequency response	30 — 15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

FM tuner (KEH-1300, 1300SDK, 1400/IT)

Frequency range	87.5 — 108 MHz
Usable sensitivity	11 dBf (1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity	16 dBf (1.7 µV/75 Ω, mono)
Signal-to-noise ratio	70 dB (IEC-A network)
Distortion	0.3 % (at 65 dBf, 1 kHz, stereo)
Frequency response	30 — 15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

MW tuner (KEH-1300, 1300SDK, 1400/IT)

Frequency range	531 — 1,602 kHz
Usable sensitivity	18 µV (25 dB) (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)

LW tuner (KEH-1300, 1300SDK, 1400/IT)

Frequency range	153 — 281 kHz
Usable sensitivity	30 µV (30 dB) (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)

AM tuner (KEH-1450, 1150)

Frequency range	531 — 1,602 kHz (9 kHz)
	530 — 1,710 kHz (10 kHz)
Usable sensitivity	18 µV (25 dB) (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)
	50 dB (±10 kHz)

AM tuner (KEH-1400/UC, 1311, 1100)

Frequency range	530 — 1,710 kHz
Usable sensitivity	18 µV (25 dB) (S/N: 20 dB)
Selectivity	50 dB (±10 kHz)

Note:
Specifications and design are subject to possible modification without notice due to improvements.

General

Power source	14.4 V DC (10.8 — 15.1 V allowable)
Grounding system	Negative type
Max. current consumption	
KEH-1400, 1450, 1311, 1300, 1300SDK	7.5 A
KEH-1100, 1150	6.0 A
Dimensions (DIN) (mounting size)	178 (W) × 50 (H) × 150 (D) mm
	[7 (W) × 2 (H) × 5-7/8 (D) in.]
(nose)	188 (W) × 58 (H) × 19 (D) mm
	[7-3/8 (W) × 2-1/4 (H) × 3/4 (D) in.]
(D) (mounting size)	178 (W) × 50 (H) × 155 (D) mm
	[7 (W) × 2 (H) × 6-1/8 (D) in.]
(nose)	170 (W) × 48 (H) × 14 (D) mm
	[6-3/4 (W) × 1-7/8 (H) × 1/2 (D) in.]
Weight	1.1 kg (2.4 lbs.)

Amplifier

Continuous power output is 14 W (10 W for KEH-1100) per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5 % THD.

Maximum power output	
KEH-1400, 1450, 1311, 1300, 1300SDK	30 W × 4
KEH-1100, 1150	22 W × 4
Load impedance	4 Ω (4 — 8 Ω allowable)
Preout output level/output impedance	500 mV/1 kΩ
Tone controls (bass) KEH-1400, 1311, 1100, 1300, 1300SDK	±12 dB (100 Hz)
(bass) KEH-1450, 1150	+8 dB — −16 dB (100 Hz)
(treble)	±12 dB (10 kHz)
Loudness contour	+10 dB (100 Hz), +7 dB (10 kHz) (Volume: −30 dB)

Tape player

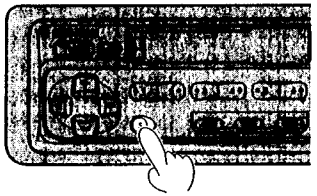
Tape	Compact cassette tape (C-30 — C-90)
Tape speed	4.76 cm/sec. (+0.14 cm/sec., -0.05 cm/sec.)(1-7/8 ips.)
Fast forward/rewind time	Approx. 90 sec. for C-60
Wow & flutter	0.13 % (WRMS)
Frequency response	
KEH-1400, 1450, 1300, 1300SDK	40 — 17,000 Hz (±3 dB)
KEH-1311, 1100, 1150	40 — 14,000 Hz (±3 dB)
Stereo separation	45 dB
Signal-to-noise ratio	
KEH-1400, 1450, 1300, 1300SDK	Metal: Dolby B NR IN: 63 dB (IHF-A network)
	Dolby NR OUT: 55 dB (IHF-A network)
KEH-1311, 1100, 1150	52 dB (IHF-A network)

FM tuner (KEH-1400/UC, 1311, 1100)

Frequency range	87.9 — 107.9 MHz
Usable sensitivity	11 dBf (1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity	16 dBf (1.7 µV/75 Ω, mono)
Signal-to-noise ratio	70 dB (IHF-A network)
Distortion	0.3 % (at 65 dBf, 1 kHz, stereo)
Frequency response	30 — 15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)
Selectivity	70 dB (2ACA)
Three-signal intermodulation (desire signal level)	50 dBf (two undesire signal level: 110 dBf)

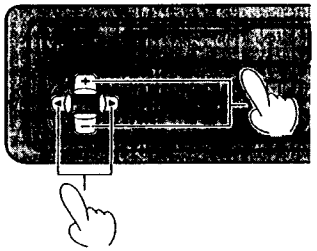
Adjusting Volume and Tone

Mode Selection



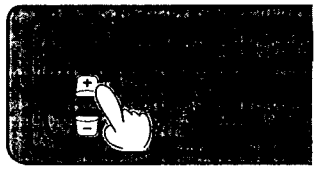
Each press of the [S] button changes the mode as follows:
Fader adjustment (F:) → Tone adjustment (T:) → Volume adjustment (V:)
- Fader, Balance, Treble and Bass settings stop temporarily at the center position.
- If no operations are performed within 8 seconds, adjustment modes are cancelled. Make adjustments within 8 seconds.

Fader/Balance



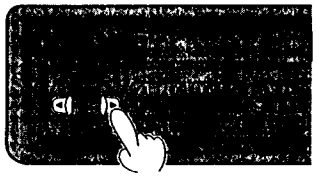
Press the [◄] or [►] button when in the Fader mode, and the Balance mode "B:" is indicated in the display. Press the [+] or [–] button when in the Balance mode, and the display changes to "F:", indicating that you have switched to the Fader mode.

Fader



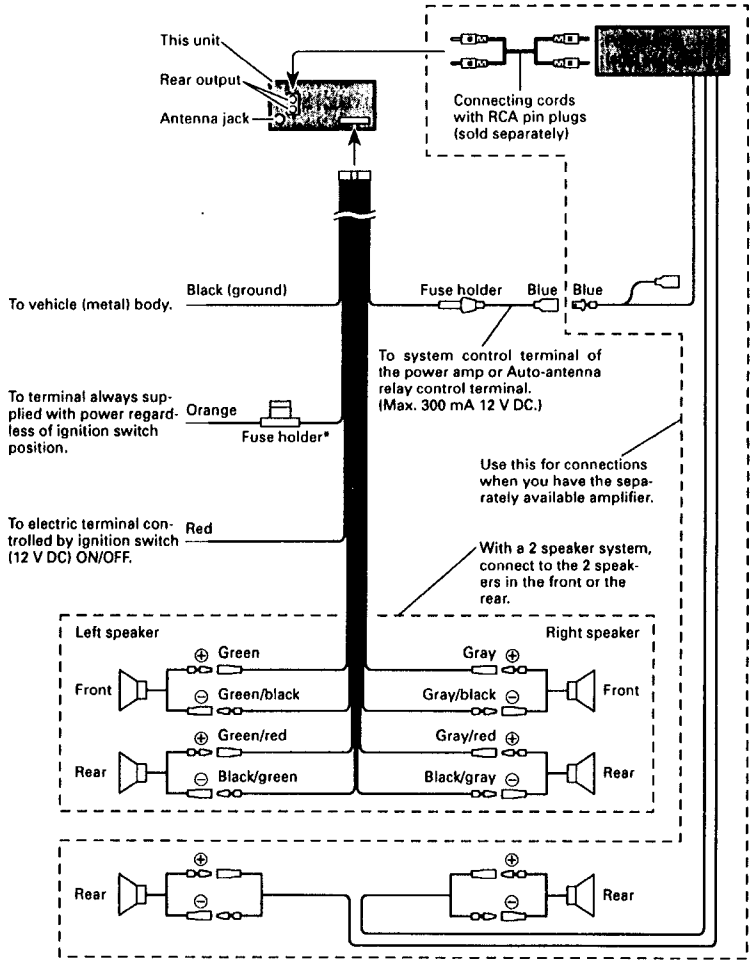
[+]: Shifts the sound toward the front speakers.
[–]: Shifts the sound toward the rear speakers.
(Display shows "F:F9" ~ "F:R9".)
- Please set to "F: 0" when using a 2 speaker system.

Balance



[►]: Shifts the sound toward the right speakers.
[◄]: Shifts the sound toward the left speakers.
(Display shows "B:L9" ~ "B:R9".)

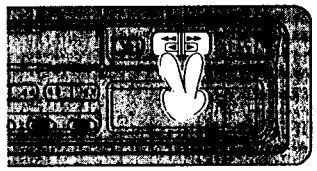
Connection Diagram



* The orange lead fuse holder for the KEH-1100 has a different shape.

Using the Tape Deck

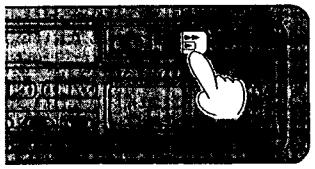
To Change Sides



Press the [◄◄] and [►►] buttons at the same time.

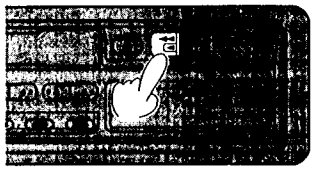
Fast Forward/Rewind

Fast forward



Press the button for the same direction as the tape play indicator.

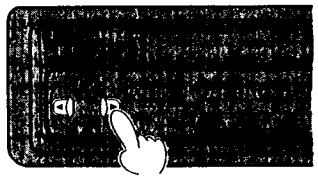
Rewind



Press the button for the opposite direction as the tape play indicator.

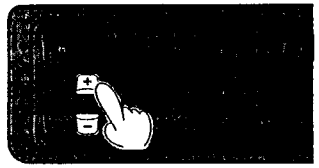
- To release fast forward/rewind, lightly press the [◄◄] or [►►] button located on the opposite side of the one you pressed to fast forward or rewind.
- "◄ ▬ ▬ ▬► " flashes when the tape is fast forwarding or rewinding.

Bass/Treble



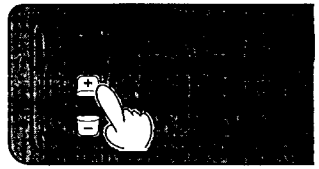
Press the [◄] button when in the Treble mode, and the Bass mode "B:" is indicated in the display. Press the [►] button when in the Bass mode, and the display changes to "T:" indicating that you have switched to the Treble mode.

Adjusting Bass/Treble



[+]: Boosts
[–]: Attenuates
(When in the Treble mode, the display shows "T:–6" ~ "T: 6". When in the Bass mode, it shows "B:–6" ~ "B: 6".)

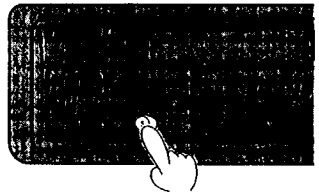
Volume



Pressing the [+] button increases the volume, while the [–] button decreases it.
(Display shows "V: 0" ~ "V: 31".)
- When driving your vehicle, be sure to keep the volume of the unit set low enough to allow you to hear sounds coming from outside.

Loudness

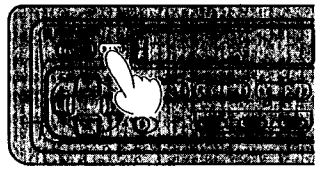
This function enhances both the high and low ranges of sound to give even more power to output at low volume.



Press the [S] button for 2 seconds to turn Loudness ON/OFF.
"LOUD" appears in the display when the Loudness function is turned ON.
"LOUD" goes out when the Loudness function is turned OFF.

Using the Radio

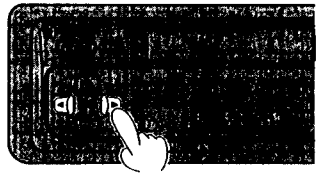
Selecting a Band



Press the [BAND] button to select a band.

→F1→F2→F3→R
(FM1) (FM2) (FM3) (AM)

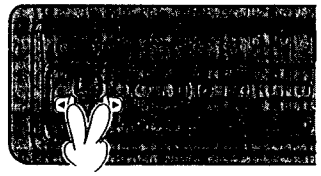
Seek Tuning



[◄]: Automatically selects a lower frequency station.
[►]: Automatically selects a higher frequency station.
("SEEK" lights in the display.)

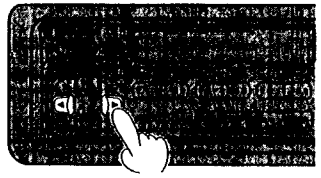
Manual Tuning

1.



Press both [◄] and [►] buttons at same time.
("SEEK" goes out from the display.)
- Each time you repeat this operation, "SEEK" either lights or goes out.

2.



[◄]: Use to select lower frequencies.
[►]: Use to select higher frequencies.
Continue pressing the button to move up or down continuously through frequencies.
- Tuning moves up or down in 0.2 MHz steps for FM, 10 kHz steps for AM.

4. DISASSEMBLY

● Removing the Case (not shown)

1.Insert and turn a flat screwdriver at locations indicated by arrows to remove the case.

● Removing the Cassette Mechanism Unit (not shown)

1.Remove the four screws.
2.Disconnect the connector.
3.Remove the cassette mechanism unit.

● Removing the Detach Grille Assy (Fig. 1)

1.Disconnect the three stoppers indicated by arrows.
2.Remove the detach grille assy.

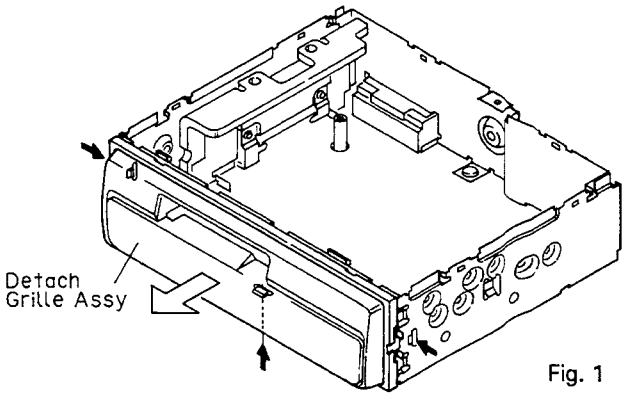


Fig. 1

● Removing the Chassis Unit (Fig. 2)

1.Remove the two screws A, two screws B and one screw C.
2.Unbend the tabs at three locations indicated by arrows.
3.Remove the chassis unit.

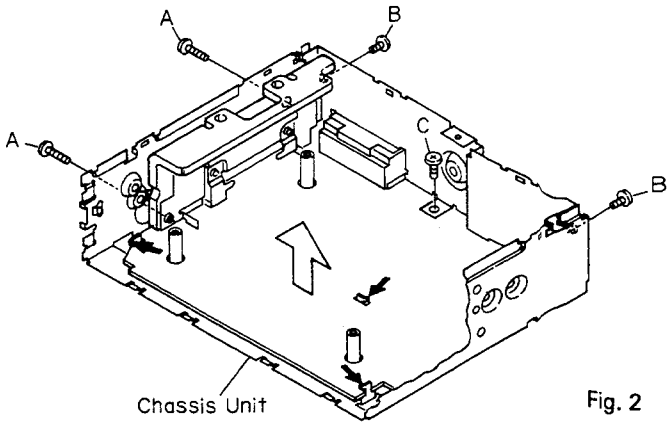


Fig. 2

5. ADJUSTMENT

● **Connection Diagram**

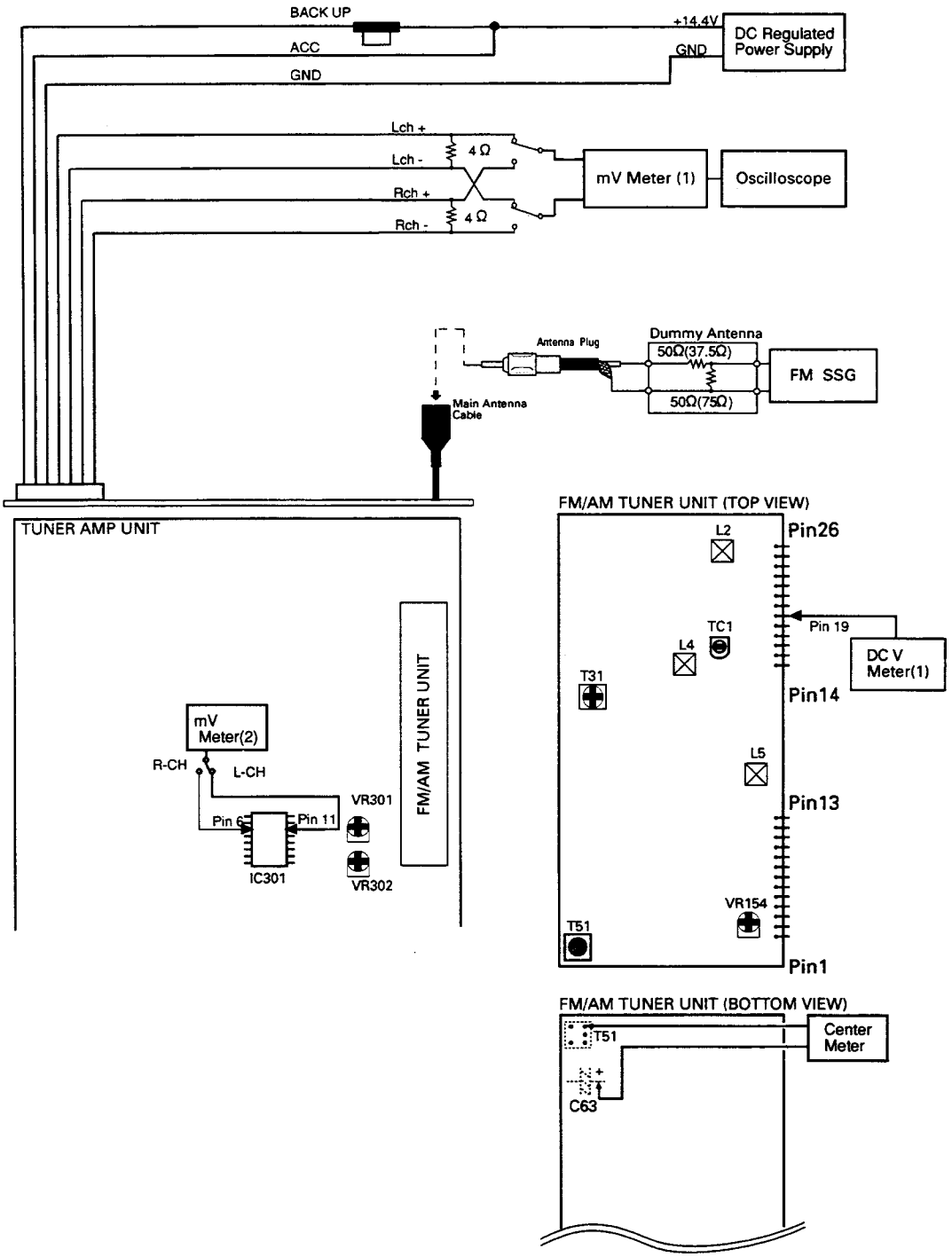


Fig. 3

● **For Repair of the Key Board Unit, Use the Extension-Cord Tool GGD1056.**

● **For Repair of the Cassette Mechanism Unit, Use the Extension-Cord Tool GGD1100.**

FM ADJUSTMENT

Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.)
S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

(KEH-1400/X1M/UC, 1311/X1M/UC, 1100/X1M/UC)

		FM SSG		Displayed	Adjustment	Adjustment Method
	No.	Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	107.9	L5	DC V Meter(1) : 6V
IF	1	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	1	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	1	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	1	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	1	98.1 S	39	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

(KEH-1300/X1M/EW, 1300SDK/X1M/GR, 1400/X1M/IT)

		FM SSG		Displayed	Adjustment	Adjustment Method
	No.	Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	108.0	L5	DC V Meter(1) : 6V
IF	1	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	1	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	1	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
Image	1	129.3 M	60—80	107.9	TC1	mV Meter(1) : Minimum
IFT	1	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	1	98.1 S	39	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

(KEH-1450/X1M/ES, 1150/X1M/ES)

		FM SSG		Displayed	Adjustment	Adjustment Method
	No.	Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	108.0	L5	DC V Meter(1) : 6V
IF	1	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	1	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	1	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	1	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	1	98.1 S	39	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

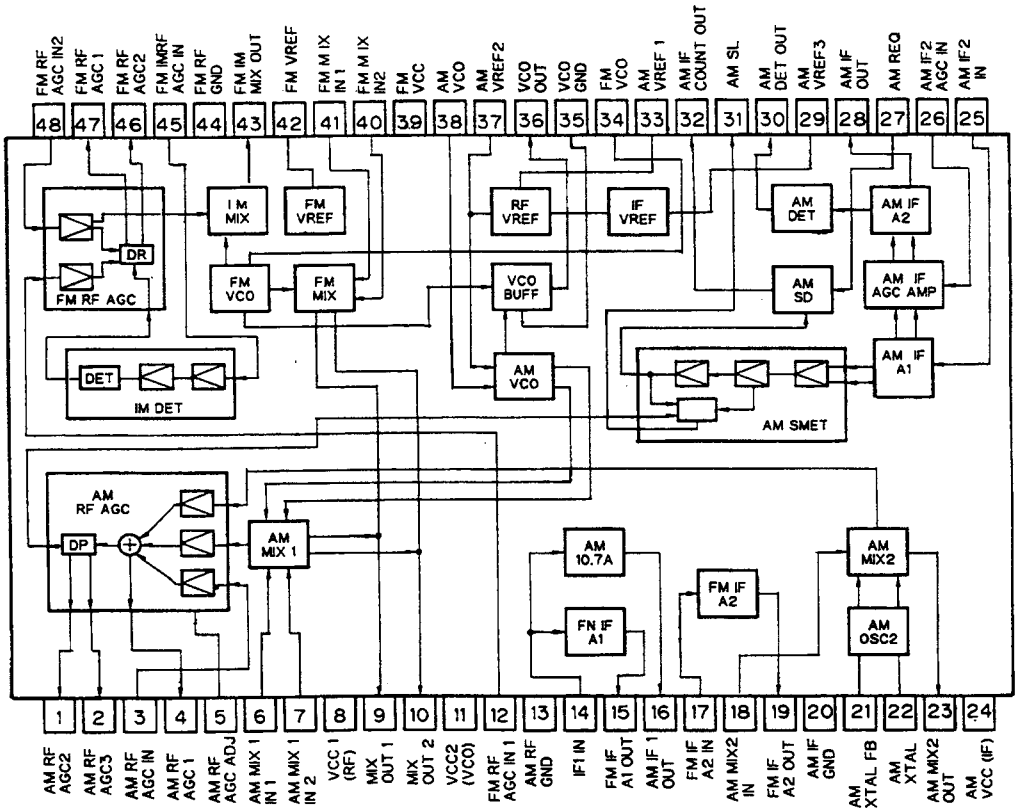
DOLBY NR ADJUSTMENT

(KEH-1400/X1M/UC, 1450/X1M/ES, 1300/X1M/EW, 1400/X1M/IT ,1300SDK/X1M/GR)

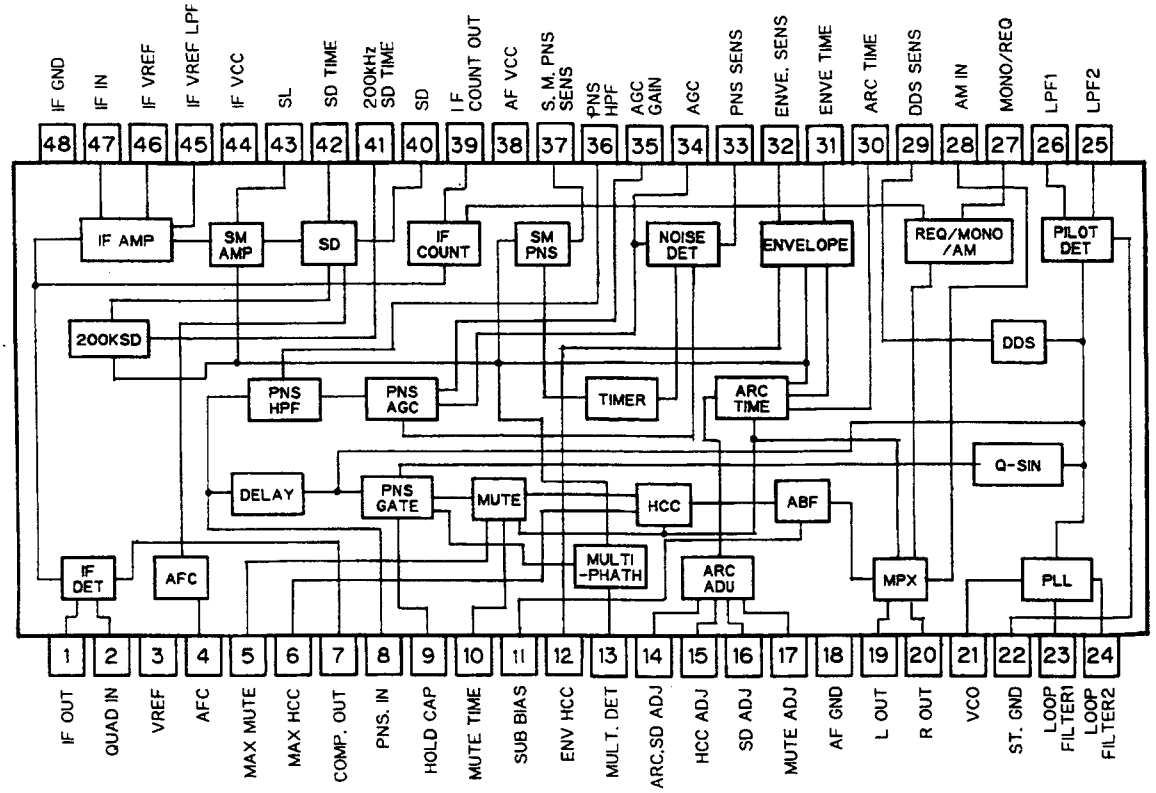
Test Tape	Adjustment Point	Adjustment Method (Switch Position)
NCT-150 (400Hz,200nwb/m)	VR301(Lch),VR302(Rch)	mV Meter(2) : -8.2dBs ±1 dB (DOLBY NR Switch : OFF)

6. IC INFORMATION

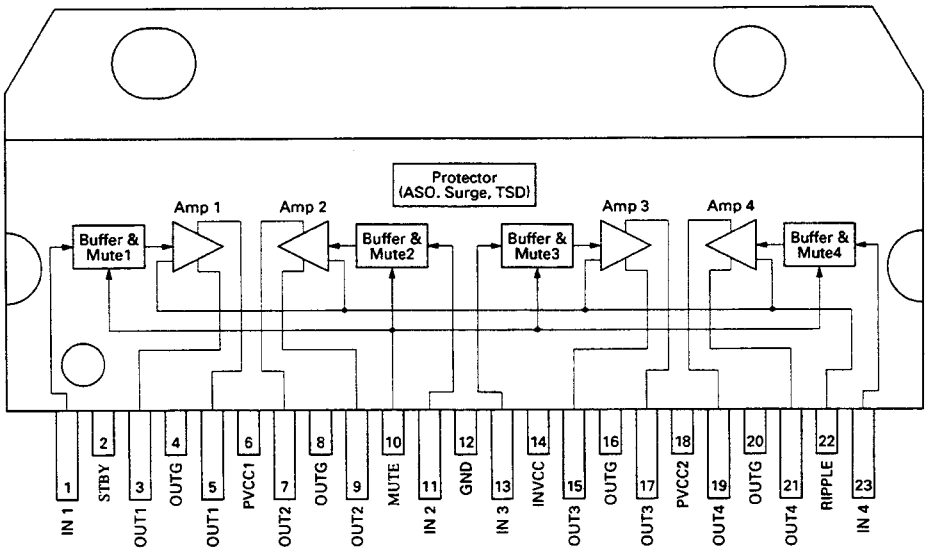
PA4023A



PA4024A



HA13150A

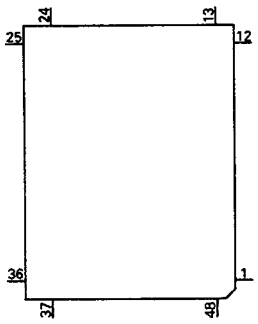


● Pin Functions (PDC015C)

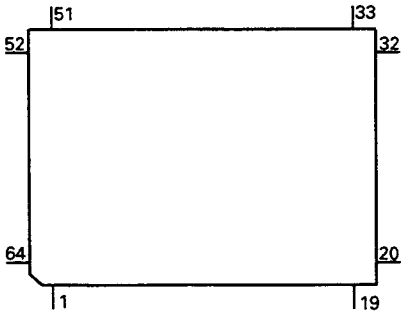
Pin No.	Pin Name	I/O	Function and Operation
1–4	NC		Not used
5–8	KST4–KST1	O	Key strobe 4–1
9–12	KD4–KD1	I	Matrix key return 4–1
13	NC		Not used
14	SCK	I/O	Clock input terminal for serial data input and output
15	SO	I/O	Key data output
16	SI	I	Display data input
17	RES	I	Reset input
18	TEST	I	Test input
19	OSC-IN	I	System clock input
20	OSC-OUT	O	System clock output
21	VSS		GND
22,23	VDD2,VDD1		LCD power supply 2,1
24	VDD		Power supply
25–28	COM1–4	O	LCD common signal 1–4
29–42	SEG1–14	O	LCD segment signal 1–14
43–48	NC		Not used

IC's marked by are MOS type.*
Be careful in handling them because ther are very liable to be damaged by electrostatic induction.

*PDC015C



*PDR025A



● **Pin Functions (PDR025A)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1	$\overline{\text{MCMUT}}$	I	C	Mechanism mute request
2	TAPLD	I	C	Tape loading input
3	EO	O	C	Error output
4	VDD1			Power supply
5	GND			GND
6	VCOIN	I		AM/FM VCO IN
7	ASENS	I		ACC power sense input
8	VDD2			Power supply
9	LCK	O	C	Clock output(Key & display microcomputer)
10	LDT	O	C	Data output(Key & display microcomputer)
11	LDI	I	C	Data input(Key & display microcomputer)
12	FMSD	I		FM SD input
13	AMIF	I		AM IF signal input
14	SL	I		Signal level input
15	$\overline{\text{ST}}$	I		Stereo input
16	$\overline{\text{SK}}$	I	C	SK signal input
17	DK	I	C	DK signal input
18	$\overline{\text{SWVDD}}$	I	C	Grille power supply control
19	PEE	O	C	Beep tone output
20	VST	O	C	Strobe pulse output for electronic volume
21	VCK	O	C	Clock output for electronic volume
22	VDT	O	C	Data output for electronic volume
23	NC			Not used
24	XOUT	O	C	Crystal oscillating element connection pin
25	XIN	I		Crystal oscillating element connection pin
26	GND			GND
27–30	NC			Not used
31	TESTIN	I	C	Test program mode input
32	DSENS	I	C	Grille detach sense input
33,34	GND			GND
35–38	NC			Not used
39	$\overline{\text{MUTE}}$	O	C	System mute output
40	DKOUT	O	C	DK interrupt output
41	ILLPW	O	C	Not used
42	AUTANT	O	C	Not used
43	SYSPW	O	C	System power supply control output
44–46	NC			Not used
47	NR	O	C	NR output
48	MTL	O	C	METAL output
49	MS	O	C	Cassette mechanism MS sense output
50	MECPW	O	C	Cassette mechanism power
51	AMPW	O	C	AM power control output
52	LOCL	O	C	LOC "L" set up
53	LOCH	O	C	LOC "H" set up
54	FMPW	O	C	FM power control output
55	$\overline{\text{SEEK}}$	O	C	Seek output
56	MONO	O	C	Forced mono output
57	LW	O	C	LW output
58	GND			GND
59–62	DM3–DM0	I		Destination • function input
63	$\overline{\text{NOR}}$/REV	I	C	Tape running input
64	DM4	I		Not used

Format	Meaning
C	C MOS

7. LCD

● **CAW1377**

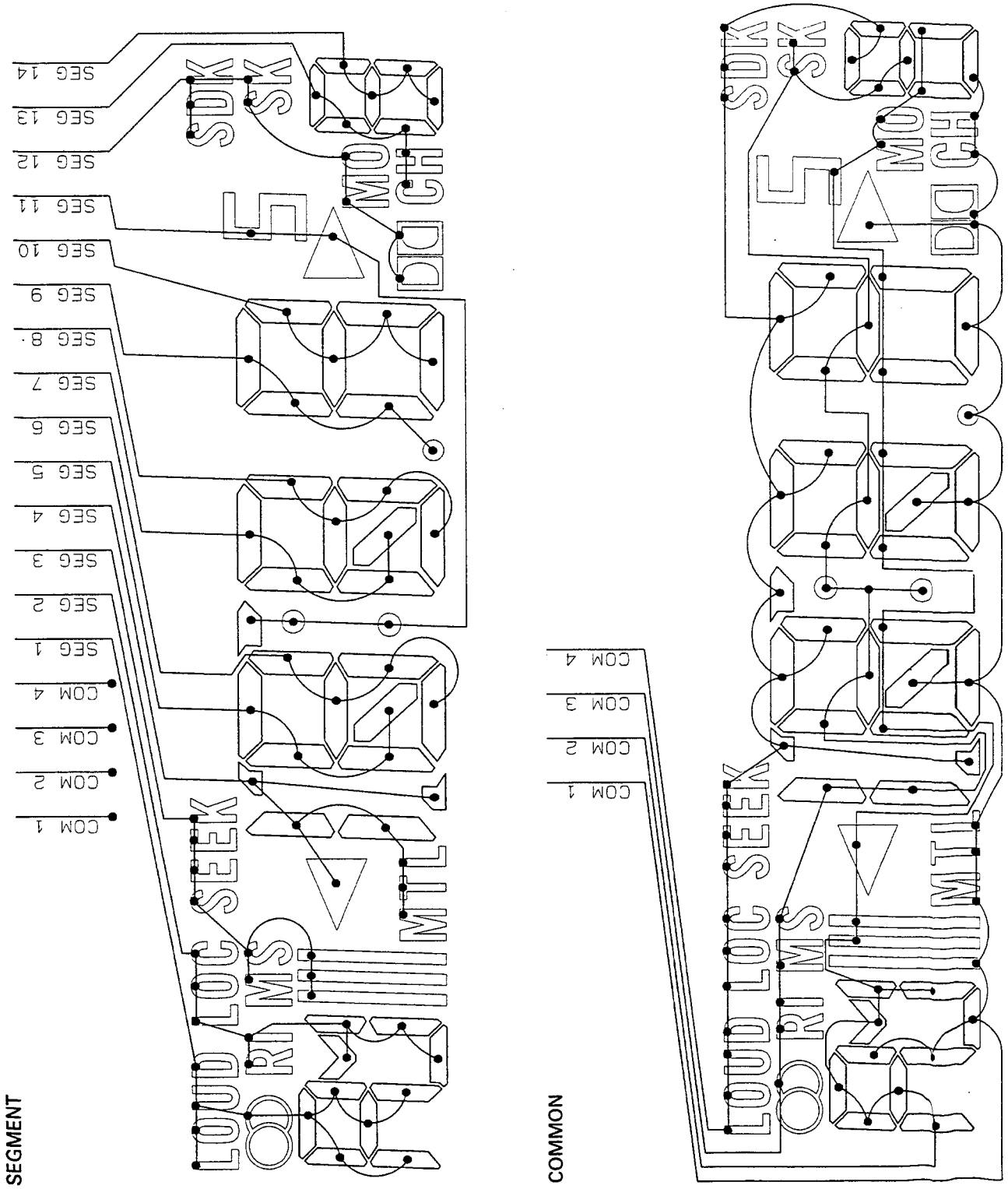


Fig. 4

8. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/OSOOOJ,RS1/OOSOOOJ

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

=====Circuit Symbol & No. Part Name=====											Part No.
Unit Number :											
Unit Name : Tuner Amp Unit(1400/X1M/UC)											
MISCELLANEOUS											
IC 251											LA3161P
IC 301											HA12134AF
IC 401											AN6263N
IC 451											SN761025DL
IC 551											HA13150A
IC 601											PDR025A
Q 301	302										DTC114TS
Q 401	605	961	963								DTC114ES
Q 501	506	602	603	606							2SC1740S
Q 502											2SK330
Q 504											2SC2498
Q 551	552	958									DTC124ES
Q 601	851	852	966								DTC143TS
Q 604											DTA114ES
Q 607											DTC124TS
Q 853											DTA124ES
Q 951											2SD1859
Q 956	962										2SA933S
Q 957											2SB1243
Q 959											2SD2395
Q 960											2SA1674
Q 965											2SB1242
Q 967											2SC1740S
D 251	502	503	601	602	604	608	609	610	611		1SS270
D 501											MTZJ3R0B
D 551											CWW1352
D 603											HZS7LB1
D 605	615										HZS7LA1
D 606											HZS7LC3
D 612	613	614									1SS270
D 621	962										1SS270
D 951	952	954	955	958							1SR139-200
D 953											HZS6LB2
D 956											HZS9LB3
D 961											HZS9LA2
L 501					Ferri-Inductor						CTF-157
L 601	602				Ferri-Inductor						LAU2R2K
L 951					Choke Coil 600H						CTH1160
X 601					Crystal Resonator 4.500MHz						CSS1077
VR 301	302				Semi-fixed 33kΩ(B)						CCP1209
					FM/AM Tuner Unit						CWE1417
RESISTORS											
R 251	252										RD1/4PU273J
R 253	254										RS1/10S470J
R 255	256	983									RS1/10S472J
R 257	258										RS1/10S104J
R 301	302	451									RD1/4PU272J

=====Circuit Symbol & No. Part Name=====											Part No.
R 303	304	512	628								RD1/4PU332J
R 305	306	309	608	609							RD1/4PU104J
R 307	501	618	620	622	959	981					RD1/4PU223J
R 308											RD1/4PU183J
R 401	402										RD1/4PU822J
R 403											RD1/4PU100J
R 404											RD1/4PU684J
R 452											RS1/10S272J
R 453											RD1/4PU151J
R 454											RS1/10S151J
R 455	456	570	952								RS1/10S101J
R 457	458	502	567	571	617	621	623				RD1/4PU103J
R 459	460	461	503	507	616	631	951	958	964		RD1/4PU472J
R 465	466										RD1/4PU223J
R 467	468										RD1/4PU151J
R 504	615										RD1/4PU152J
R 505	506	516	518	956	962	965	970				RD1/4PU102J
R 508	522	523	575	576							RD1/4PU222J
R 509	573	574									RD1/4PU222J
R 511											RD1/4PU101J
R 513	853	854									RD1/4PU821J
R 514	960	973									RD1/4PU331J
R 515											RD1/4PU680J
R 527	528										RD1/4PU162J
R 529											RD1/4PU330J
R 530											RD1/4PU393J
R 531	982										RS1/10S103J
R 551	552	553	554	555	556	557	558				RD1/4PU2R2J
R 568											RS1/10S153J
R 569											RS1/10S221J
R 577	578	579	580	606							RS1/10S222J
R 605											RS1/10S473J
R 607	610	630	957								RD1/4PU473J
R 611											RD1/4PU473J
R 612	613	614	625								RD1/4PU222J
R 619	980										RD1/4PU392J
R 624											RS1/8S104J
R 626											RD1/4PU104J
R 851	852										RS1/10S223J
R 961											RD1/4PU511J
R 963											RD1/4PU471J
R 969											RD1/4PU472J
R 971	972										RD1/4PU1R5J
CAPACITORS											
C 251	252	507									CKSQYB681K50
C 253	254										CEA2R2M50LS2
C 255	256	263	403								CEA101M10LS
C 257	258	475	476								CKSQYB333K25
C 301	302	304	451	452	453	454	463	464			CEA010M50LL
C 305	306										CKSQYF224Z25
C 307	555	556	557	558	559	560	561	562	604		CKSQYB104K16
C 308	517	518	606								CKSQYB104K16
C 309											CEA4R7M35LS2
C 310	551	552	553	554	603						CEA4R7M35LL

=====Circuit Symbol & No.	Part Name=====	Part No.
C 311 312 513 515 520 521		CKSQYB223K25
C 401		CKSQYB562K50
C 402		CCSQCH330J50
C 404		CKSYB823K50
C 459 460 465 466 483 851 852		CEA100M16LL
C 461 462		CKSQYB822K50
C 467 468		CKSQYB152K50
C 469 470		CKSQYB183K25
C 471 472 501 510 589 590 591 592 609 953		CKSQYB102K50
C 473 474 484		CEA2R2M50LL
C 477 478 508 509 512 963 964		CCSQCH101J50
C 485		CKSQYB332K50
C 487		CKSYB104K16
C 489 504 506 511 958		CKSQYB103K25
C 502 525		CKSYB473K16
C 503	4.7μF/16V	CCH1005
C 516 526 607		CKSQYB473K16
C 541		CCSQCH100D50
C 570		CEAS100M16
C 571		CEAS330M10
C 572 573		CKSQYB104K25
C 601		CCSQCH110J50
C 602		CCSQCH100D50
C 611		CKSYB103K25
C 951	3300μF/16V	CCH1018
C 952		CEAS331M16
C 957 959	330μF/10V	CCH1181
C 960		CEA101M16LL

Unit Number : CWM4585
Unit Name : Key Board Unit(KEH-1400/X1M/UC, 1400/X1M/IT, 1450/X1M/ES,1150/X1M/ES)

MISCELLANEOUS

IC 901		PDC015C
D 901		MA151WK
D 902		MA151WA
D 903		MA110
L 901	Ferri-Inductor	LAU150K
S 901 902 903 904 905 906 907 908 909 910		CSG1055
S 911 912 913 914 915 916		CSG1055
IL 901 902 903	Lamp 14V 65mA	CEL1470
LCD 901	LCD	CAW1377

RESISTORS

R 901 902		RS1/10S222J
R 903 904 905 906 907 908 909 910 911 912		RS1/10S471J
R 913		RS1/10S682J
R 917		RS1/10S472J
R 946		RS1/10S473J

CAPACITORS

C 901		CEA100M16LL
C 902 903		CKSQYB103K25
C 904		CCSQCH181J50
C 905		CKSQYB104K16

Unit Number : CWE1417
Unit Name : FM/AM Tuner Unit(KEH-1400/X1M/UC,1450/X1M/ES, 1311/X1M/UC,1100/X1M/UC,1150/X1M/ES)

MISCELLANEOUS

IC 1		PA4023A
IC 2		PA4024A
Q 1 31 202		2SC2412KLN
Q 2 203		DTC124EU
Q 3		3SK263
Q 201		2SK932
D 1 2		RD39JS
D 4		1SV251
D 5 7 8		KV1410
D 6 201 202		MA157

=====Circuit Symbol & No.	Part Name=====	Part No.
D 231		SVC253
L 2 4		CTC1108
L 3	Inductor	LCTB2R2K2125
L 5	Coil	CTC1107
L 51	Ferri-Inductor	LAU150K
L 201	Ferri-Inductor	LAU4R7K
L 202	Ferri-Inductor	LAU330K
L 203	Inductor	CTF1287
L 208	Inductor	LAU121K
L 231	Inductor	LAU3R3J3225
T 31	Coil	CTE1116
T 51	Coil	CTC1136
CF 51 52 53	Ceramic Filter	CTF1290
CF 232	Ceramic Filter	CTF1348
X 151	Ceramic Resonator 920.5kHz	CSS1365
X 231	Crystal Resonator 10.26MHz	CSS1111
VR 154	Semi-fixed 68kΩ(B)	CCP1211

RESISTORS

R 1 2	RS1/16S225J
R 4	RS1/16S154J
R 5	RS1/16S391J
R 6 10 202	RS1/16S223J
R 7 247	RS1/16S123J
R 8 17	RS1/16S332J
R 9	RS1/16S473J
R 11	RS1/16S124J
R 13	RS1/16S563J
R 15	RS1/16S271J
R 16	RS1/16S104J
R 18	RS1/16S332J
R 31	RS1/16S470J
R 32 215	RS1/16S822J
R 33	RS1/16S822J
R 34 35	RS1/16S331J
R 51	RS1/16S271J
R 52	RS1/16S560J
R 55	RS1/16S102J
R 56	RS1/16S823J
R 61	RS1/16S392J
R 62	RS1/16S273J
R 101	RS1/16S272J
R 102	RS1/16S682J
R 103	RS1/16S333J
R 104	RS1/16S334J
R 105	RS1/16S683J
R 107	RS1/16S222J
R 151	RS1/16S222J
R 152	RS1/16S393J
R 239	RS1/16S104J
R 155	RS1/16S273J
R 156	RS1/16S243J
R 157	RS1/16S203J
R 160	RS1/16S222J
R 161	RS1/16S563J
R 162	RS1/16S105J
R 163	RS1/16S223J
R 203	RS1/16S225J
R 204	RS1/16S103J
R 206	RS1/16S220J
R 207	RS1/16S101J
R 208 217	RS1/16S102J
R 209	RS1/16S471J
R 214	RS1/16S822J
R 231	RS1/16S272J
R 232	RS1/16S473J
R 237	RS1/16S103J
R 238	RS1/16S104J
R 239	RS1/16S104J

=====Circuit Symbol & No. Part Name=====										Part No.
R	240									RS1/16S332J
R	241									RS1/16S202J
R	243									RS1/16S183J
R	244									RS1/16S472J
CAPACITORS										
C	1									CCSQCH060D50
C	2									CCSRCH020C50
C	4									CCSRCH820J50
C	6									CCSRCH820J50
C	8	18	25	31	52	59	62	105	107	213 CKSRYB103K25
C	9	34	56	152	160	241				CKSQYB104K16
C	10									CCSRCH0R5C50
C	11									CEA010M50LL
C	12	13	17	19	20					CKSRYB222K50
C	14									CCSRCH220J50
C	15									CCSRCH060D50
C	16									CCSRCH080D50
C	21									CEA100M16LL
C	22									CCSRTH090D50
C	23									CCSRTH120J50
C	24									CCSRCH471J50
C	26									CCSRCH101J50
C	32									CKSQYB472K50
C	33									CCSRCH050C50
C	36									CCSRRH201J50
C	51									CKSRYB223K25
C	54									CCSRCH470J50
C	55									CKSQYB223K25
C	57									CKSRYB472K50
C	58	234								CEA330M10LL
C	60									CKSRYB102K50
C	61									CKSRYB102K50
C	63									CEAR22M50LL
C	101									CEA100M10NPLL
C	102									CKSRYB182K50
C	103									CKSRYB682K25
C	104									CEA2R2M50LL
C	106									CCSRCH151J50
C	151									CKSRYB472K50
C	153	157								CEA3R3M50LL
C	154									CKSQYB104K16
C	158									CKSYB474K16
C	159									CEA220M6R3LL
C	161	209								CKSQYB104K16
C	162									CEA3R3M50LL
C	163									CKSRYB102K50
C	170	202								CCSRCH100D50
C	201	250								CCSRCH471J50
C	203	235								CKSRYB332K50
C	204	205	236	244						CKSQYB473K16
C	206	233								CKSQYB104K16
C	207									CCSRCH560J50
C	211									CCSRCH101J50
C	212									CEA470M6R3LL
C	216									CCSRCH101J50
C	217									CEA1R5M50LL
C	219									CCSRCH471J50
C	220	230								CKSRYB103K25
C	231									CCSRCH330J50
C	232									CCSRCH150J50
C	237									CCSRCH180J50
C	239									CKSRYB472K50
C	240	242								CEAR47M50LL
C	243									CEAR33M50LL
C	245									CKSRYB183K25
C	246									CKSQYB473K16

=====Circuit Symbol & No. Part Name=====			Part No.
Unit Number :			
Unit Name	: Cassette P.C.Board(KEH-1400/X1M/UC,1450/X1M/ES, 1300/X1M/EW,1300SDK/X1M/GR,1400/X1M/IT,1311/X1M/UC)		
D	1		1SR-35-100A
S	1	Switch(Load)	ESN1016
S	2	Switch(Mute)	ESN1017
S	3	Switch(FWD/REV)	ESH1006
Miscellaneous Parts List			
M	1	Motor Unit	EXA1444
HD	1	Head Assy	EXA1443
SO	1	Solenoid	EXP1012
Unit Number :			
Unit Name	: Cassette P.C.Board(KEH-1100/X1M/UC,1150/X1M/ES)		
S	1	Switch(Load)	ESN1016
S	2	Switch(Mute)	ESN1017
S	3	Switch(FWD/REV)	ESH1006
Miscellaneous Parts List			
M	1	Motor Unit	EXA1444
HD	1	Head Assy	EXA1443

● The KEH-1300/X1M/EW, KEH-1300SDK/X1M/GR, KEH-1400/X1M/IT, KEH-1450/X1M/ES, KEH-1311/X1M/UC, KEH-1100/X1M/UC and KEH-1150/X1M/ES Tuner Amp Unit Parts Lists enumerate the parts which differ from those enumerated in the KEH-1400/X1M/UC Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The KEH-1400/X1M/UC Tuner Amp Unit Parts List is given on page 14.

Tuner Amp Unit

Circuit Symbol & No.	1400/X1M/UC Part No.	1450/X1M/ES Part No.	1311/X1M/UC Part No.	1100/X1M/UC Part No.	1150/X1M/ES Part No.
IC301	HA12134AF	HA12134AF	·····	·····	·····
IC401	AN6263N	AN6263N	AN6263N	·····	·····
IC551	HA13150A	HA13150A	HA13150A	PA3029B	PA3029B
VR301,302	CCP1209	CCP1209	·····	·····	·····
Q301,302	DTC114TS	DTC114TS	·····	·····	·····
Q401	DTC114ES	DTC114ES	DTC114ES	·····	·····
R301,302	RD1/4PU272J	RD1/4PU272J	·····	·····	·····
R303,304	RD1/4PU332J	RD1/4PU332J	·····	·····	·····
R305,306,309	RD1/4PU104J	RD1/4PU104J	·····	·····	·····
R307	RD1/4PU223J	RD1/4PU223J	·····	·····	·····
R308	RD1/4PU183J	RD1/4PU183J	·····	·····	·····
R401,402	RD1/4PU822J	RD1/4PU822J	RD1/4PU822J	·····	·····
R403	RD1/4PU100J	RD1/4PU100J	RD1/4PU100J	·····	·····
R404	RD1/4PU684J	RD1/4PU684J	RD1/4PU684J	·····	·····
R465,466	RD1/4PU223J	RD1/4PU223J	RD1/4PU333J	RD1/4PU333J	RD1/4PU333J
R601	·····	·····	RD1/4PU472J	·····	·····
R602	·····	·····	·····	RD1/4PU472J	RD1/4PU472J
R604	·····	RD1/4PU472J	·····	·····	RD1/4PU472J
R631	RD1/4PU472J	·····	RD1/4PU472J	RD1/4PU472J	·····
C301,302,304	CEA010M50LL	CEA010M50LL	·····	·····	·····
C305,306	CKSQYF224Z25	CKSQYF224Z25	·····	·····	·····
C307,308	CKSQYB104K16	CKSQYB104K16	·····	·····	·····
C309	CEA4R7M16LS2	CEA4R7M16LS2	·····	·····	·····
C310	CEA4R7M35LL	CEA4R7M35LL	·····	·····	·····
C311,312	CKSQYB223K25	CKSQYB223K25	·····	·····	·····
C401	CKSQYB562K50	CKSQYB562K50	CKSQYB562K50	·····	·····
C402	CCSQCH330J50	CCSQCH330J50	CCSQCH330J50	·····	·····
C403	CEA101M10LS	CEA101M10LS	CEA101M10LS	·····	·····
C404	CKSQYB823K25	CKSQYB823K25	CKSQYB823K25	·····	·····

Tuner Amp Unit(1/2)

Circuit Symbol & No.	1400/X1M/UC Part No.	1300/X1M/EW 1400/X1M/IT Part No.	1300SDK/X1M/GR Part No.
IC601	PDR025A	PDR026A	PDR026A
IC701	·····	·····	LA2220
IC702	·····	·····	NJM4558M
X701	·····	·····	CSS1022
Q701	·····	·····	2SC1740S
Q702	·····	·····	DTC124TS
EF951	·····	CCG1003	CCG1003
FM/AM Tuner Unit	CWE1417	CWE1416	CWE1416
R527,528	RD1/4PU162J	RD1/4PU272J	RD1/4PU272J
R604,712	·····	·····	RD1/4PU472J
R631	RD1/4PU472J	RD1/4PU472J	·····
R701	·····	·····	RN1/10SE182D
R702	·····	·····	RN1/10SE473D
R703,714	·····	·····	RD1/4PU473J
R704	·····	·····	RD1/4PU222J
R705,715	·····	·····	RD1/4PU103J
R706	·····	·····	RD1/4PU123J
R707	·····	·····	RD1/4PU684J
R708,719	·····	·····	RD1/4PU153J

Tuner Amp Unit(2/2)

Circuit Symbol & No.	1400/X1M/UC Part No.	1300/X1M/EW 1400/X1M/IT Part No.	1300SDK/X1M/GR Part No.
R709	·····	·····	RS1/10S682J
R710	·····	·····	RD1/4PU152J
R711	·····	·····	RS1/10S564J
R713	·····	·····	RS1/10S823J
R717,718	·····	·····	RD1/4PU104J
R720	·····	·····	RN1/4PC1600D
C525	CKSYB473K16	CKSYB223K25	CKSYB223K25
C526	CKSQYB473K16	CKSQYB223K25	CKSQYB223K25
C701	·····	·····	CEAS470M10
C702	·····	·····	CEA100M16LL
C703,704	·····	·····	CQMA102J50
C705	·····	·····	CKSQYB222K50
C706,712,715,716	·····	·····	CKSQYB473K16
C707	·····	·····	CKSYB223K25
C708	·····	·····	CEA470M10LL
C709	·····	·····	CEAR33M50LL
C710	·····	·····	CQMA683J50
C711	·····	·····	CEA010M50LL
C713,714	·····	·····	CFTLA473J50
C717,718	·····	·····	CKSQYB102K50

● The KEH-1300/X1M/EW, KEH-1300SDK/X1M/GR, KEH-1311/X1M/UC and KEH-1100/X1M/UC Key Board Unit Parts Lists enumerate the parts which differ from those enumerated in the KEH-1400/X1M/UC, KEH-1400/X1M/IT, KEH-1450/X1M/ES and KEH-1150/X1M/ES Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The KEH-1400/X1M/UC, KEH-1400/X1M/IT, KEH-1450/X1M/ES and KEH-1150/X1M/ES Key Board Unit Parts List is given on page 14.

Key Board Unit

Circuit Symbol & No.	1400/X1M/UC(CWM4585) 1400/X1M/IT(CWM4711) 1450/X1M/ES(CWM4594) 1150/X1M/ES(CWM4597) Part No.	1300/X1M/EW(CWM4579) 1300SDK/X1M/GR(CWM4582) 1311/X1M/UC(CWM4588) 1100/X1M/UC(CWM4591) Part No.
IL 901,902,903	CEL1470	CEL1469

● The KEH-1300/X1M/EW, KEH-1300SDK/X1M/GR and KEH-1400/X1M/IT FM/AM Tuner Unit Parts Lists enumerate the parts which differ from those enumerated in the KEH-1400/X1M/UC, KEH-1450/X1M/ES, KEH-1311/X1M/UC, KEH-1100/X1M/UC and KEH-1150/X1M/ES Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The KEH-1400/X1M/UC, KEH-1450/X1M/ES, KEH-1311/X1M/UC, KEH-1100/X1M/UC and KEH-1150/X1M/ES FM/AM Tuner Unit Parts List is given on page 14.

FM/AM Tuner Unit

Circuit Symbol & No.	1400/X1M/UC, 1100/X1M/UC, 1450/X1M/ES, 1150/X1M/ES, 1311/X1M/UC CWE1417 Part No.	1300/X1M/EW, 1300SDK/X1M/GR 1400/X1M/IT CWE1416 Part No.
AR 1	·····	DSP-201M
CF 51,52,53	CTF1290	CTF1292
D 1,2	RD39JS	·····
L 6	·····	LCTBR15K608
Q 154	·····	DTC124EU
Q 165	·····	2SC2412KLN
TC 1	·····	CCL1042
R 1	RS1/16S225J	RS1/16S0R0J
R 2	RS1/16S225J	·····
R 62	RS1/16S273J	RS1/16S393J
R 154	·····	RS1/16S104J
R 163	RS1/16S223J	RS1/16S222J
R 243	RS1/16S183J	RS1/16S123J
R 244	RS1/16S472J	RS1/16S103J
C 15	CCSRCH060D50	·····
C 26	CCSRCH101J50	·····
C 60	CKSRYB102K50	·····
C 63	CEAR22M50LL	CEAR15M50LL
C 245	CKSRYB183K25	CKSRYB123K25

9. BLOCK DIAGRAM

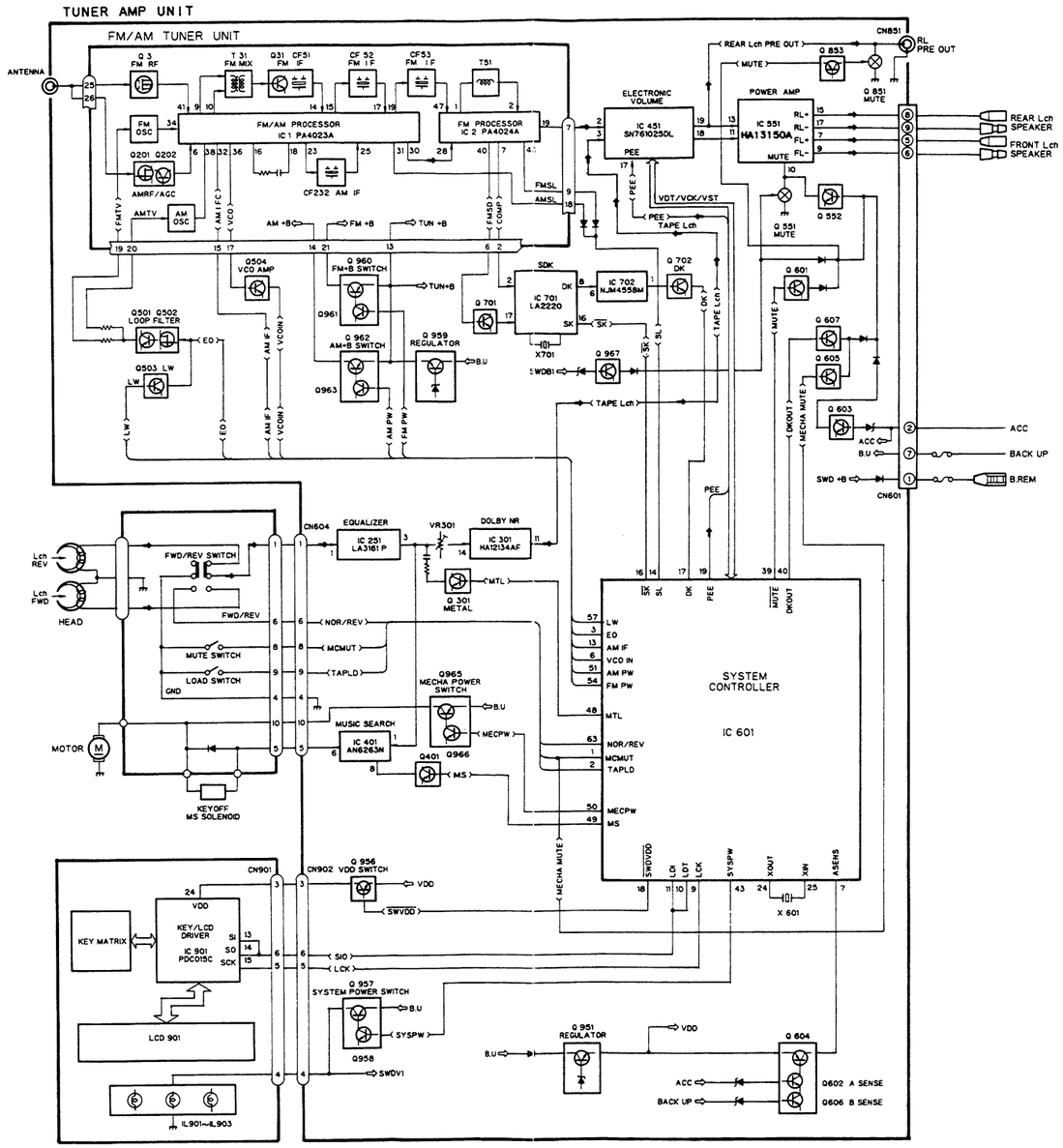
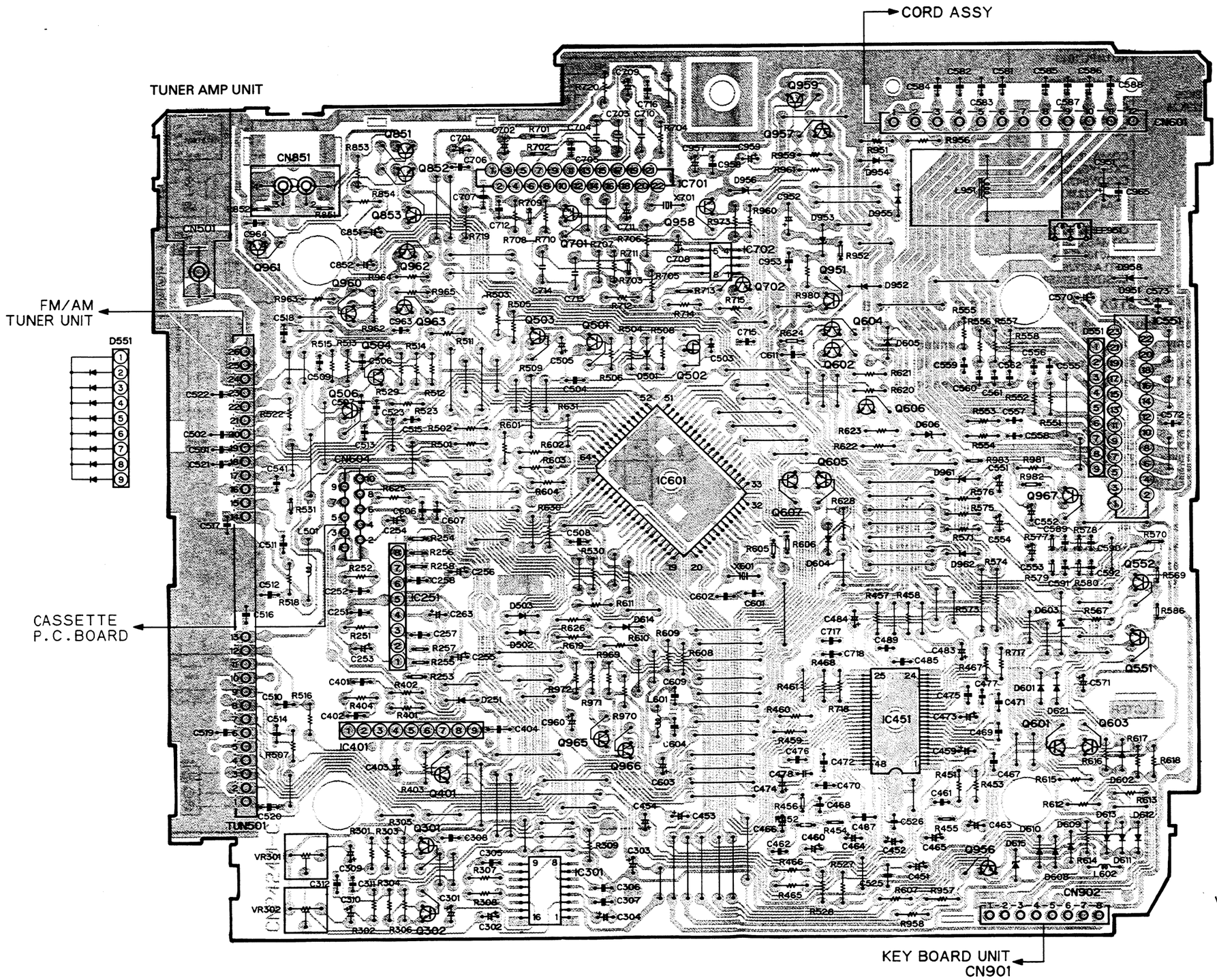


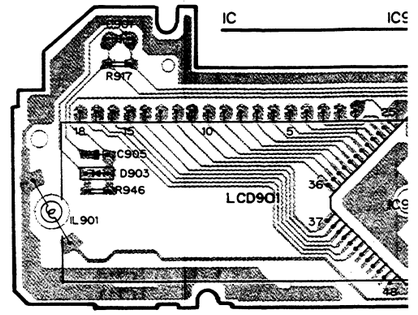
Fig. 5

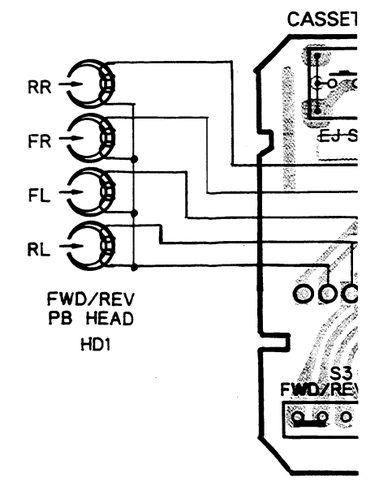
10. CONNECTION DIAGRAM



ADJ	IC, Q
	Q959
	Q851 Q957
	Q852 IC701
	Q853 Q701 Q958
	Q961 Q962 IC702
	Q702 Q951 Q960 Q963 Q503 Q501 Q604 Q502 Q602 Q504
	Q506 Q606 IC551
	IC601 Q607 Q605
	Q967
	IC251 Q552
	Q551
	IC401 Q965 IC451 Q966 Q601 Q603 Q401
VR301	Q301
	IC301 Q956
VR302	Q302

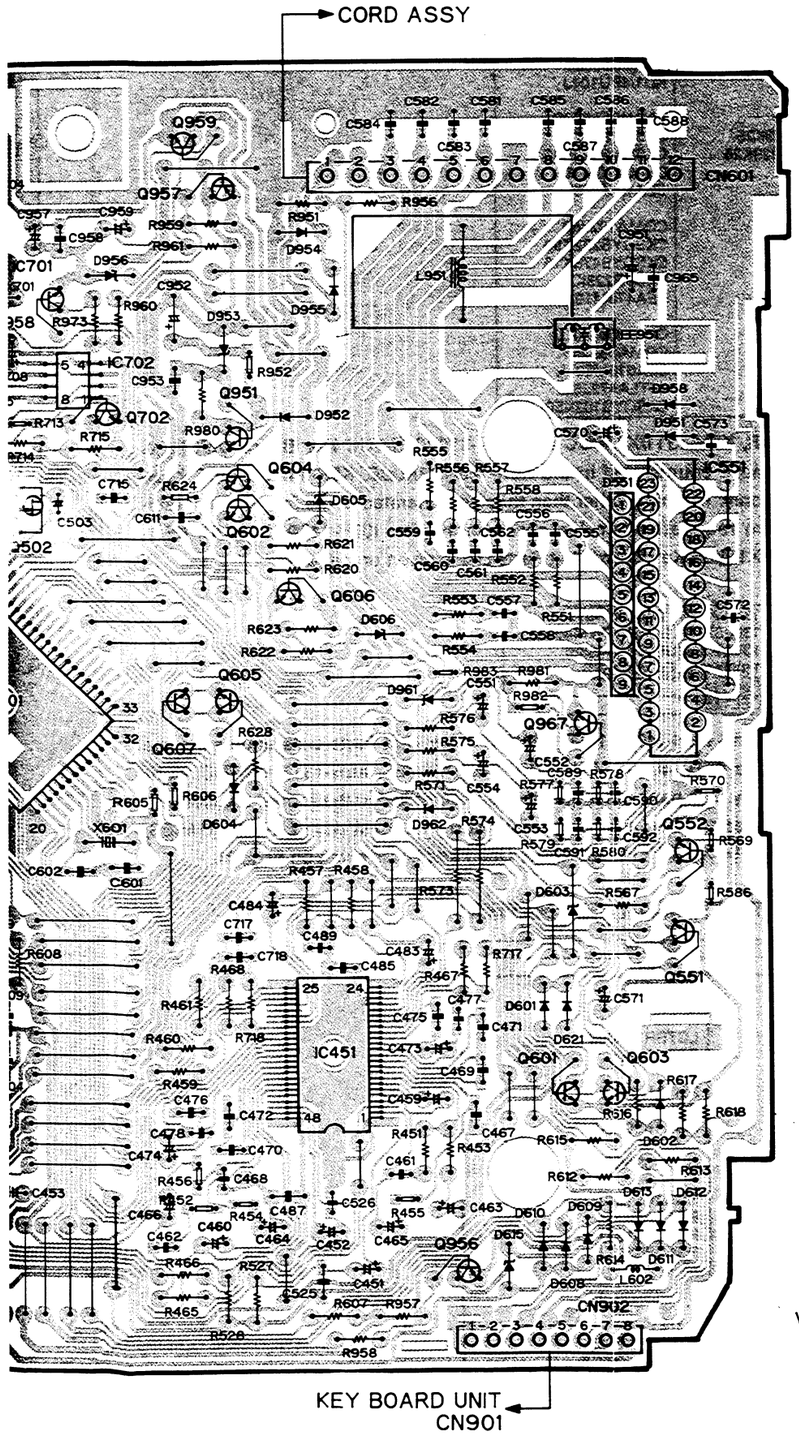
KEY BOARD UNIT





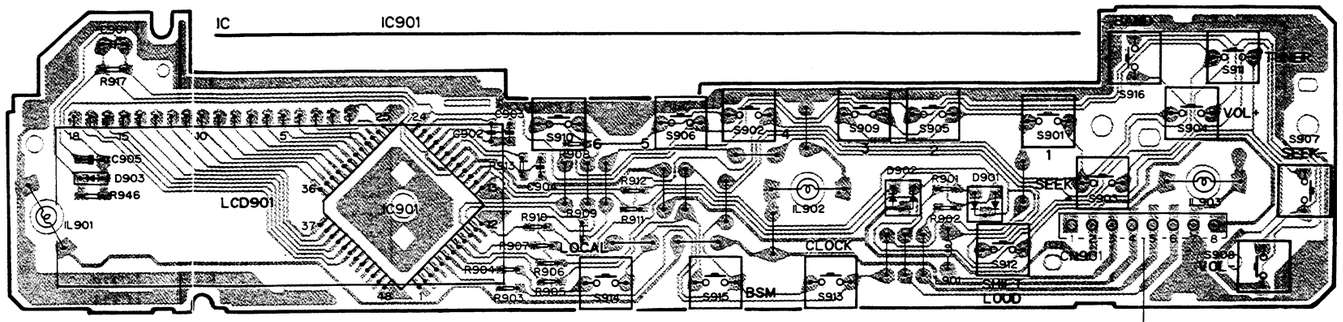
NOTE:

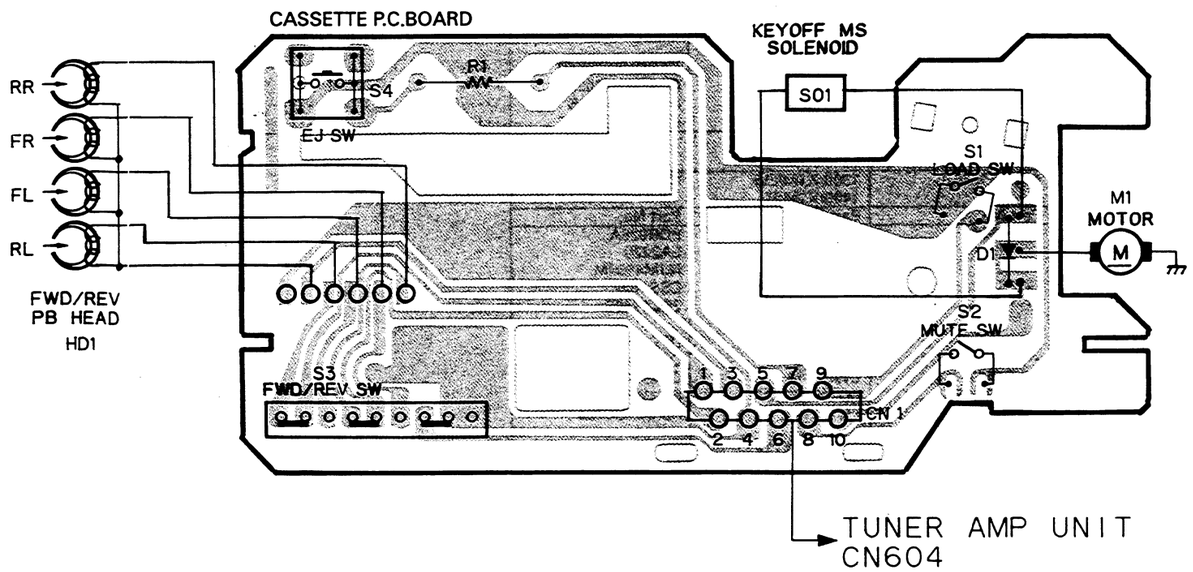
The parts mounted on this PCB inclu
For further informati on for respectiv



ADJ	IC, Q
	Q959
	Q851 Q957
	Q852 IC701
	Q853 Q701 Q958
	Q961 Q962 IC702
	Q702 Q951
	Q960 Q963
	Q503 Q501 Q604
	Q502 Q602
	Q504
	Q506 Q606 IC551
	IC601 Q607 Q605
	Q967
	IC251 Q552
	Q551
	IC401 Q965 IC451
	Q966 Q601 Q603
	Q401
VR301	Q301
	IC301 Q956
VR302	Q302

KEY BOARD UNIT



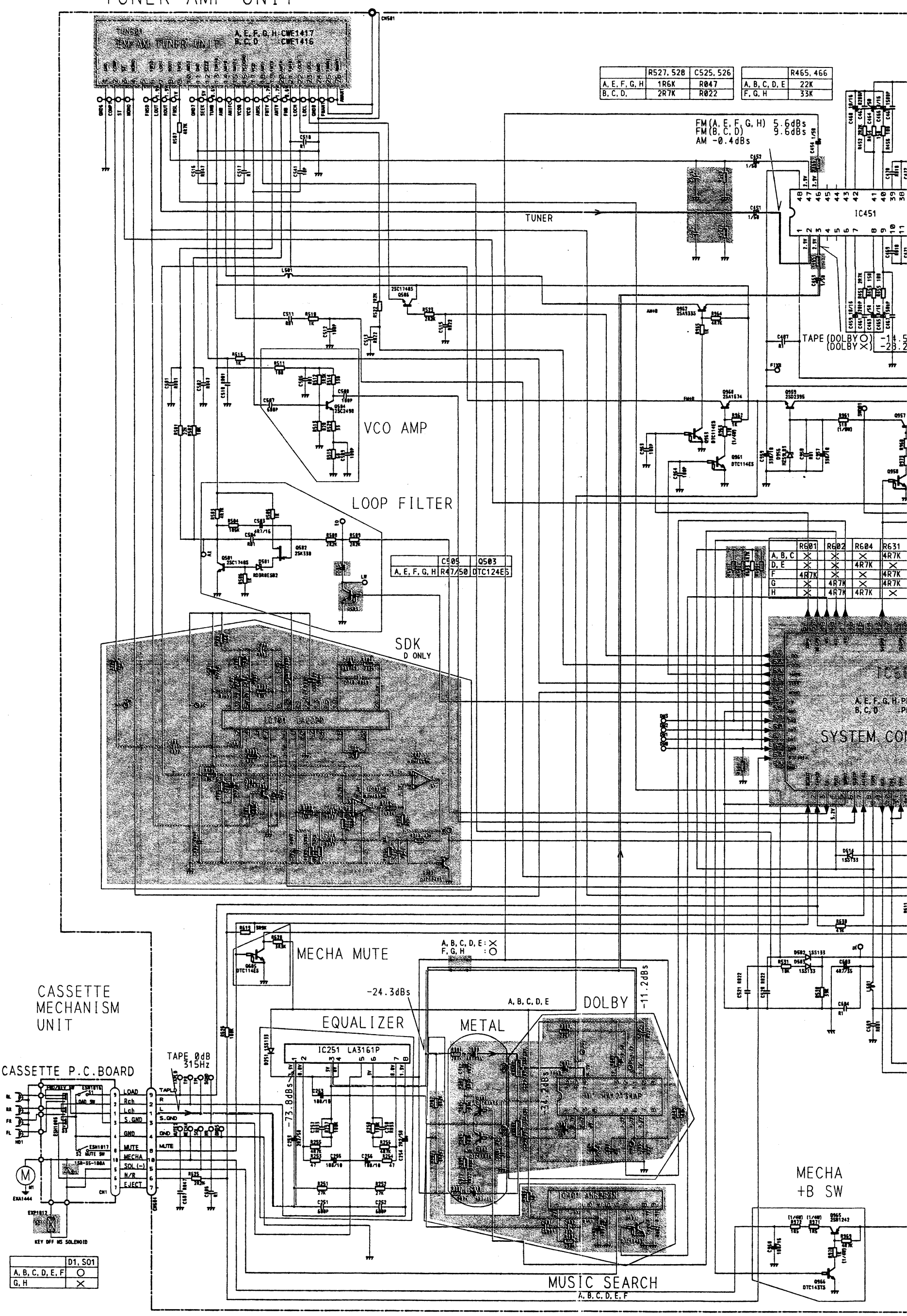


NOTE:

The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

Fig. 6

11. SCHEMATIC CIRCUIT DIAGRAM



	R527, 528	C525, 526
A, E, F, G, H	1R6K	R047
B, C, D,	2R7K	R022

	R465, 466
A, B, C, D, E	22K
F, G, H	33K

	C505	Q503
A, E, F, G, H	R47/50	DTC124ES

	R601	R602	R604	R631
A, B, C	×	×	×	4R7K
D, E	×	×	4R7K	×
F	4R7K	×	×	4R7K
G	×	4R7K	×	4R7K
H	×	4R7K	4R7K	×

	D1, S01
A, B, C, D, E, F	○
G, H	×

	R527, 528	C525, 526
A, E, F, G, H	1R6K	R047
B, C, D,	2R7K	R022

	R465, 466
A, B, C, D, E	22K
F, G, H	33K

VOLUME CONTROLLER

VOLUME
BALANCE
FADER
BASS/TRE
LOUD

FM(A, E, F, G, H) 5.6dBs
FM(B, C, D) 9.6dBs
AM -0.4dBs

TUNER

IC451 SN761025DL

D ONLY

TAPE (DOLBY O) -14.5dBs
(DOLBY X) -20.2dBs

FM(A, E, F, G, H) 4dBs
FM(B, C, D) 8dBs
AM -2dBs
TAPE -4.1dBs

POWER AM

AUDIO REGULATOR
8.5V

	R601	R602	R604	R631
A, B, C	X	X	X	4R7K
D, E	X	X	4R7K	X
F	4R7K	X	X	4R7K
G	X	4R7K	X	4R7K
H	X	4R7K	4R7K	X

IC501
A, E, F, G, H: PDR025A
B, C, D : PDR026A
SYSTEM CONTROLLER

MUTE

ACC SENSE

B.U SENSE

KEY SW

C505	Q503
R47/50	DTC124ES

A, B, C, D, E : X
F, G, H : O

A, B, C, D, E DOLBY -11.2dBs

METALL -12.2dBs

IC401 AN8543N

MUSIC SEARCH
A, B, C, D, E, F

MECHA
+B SW

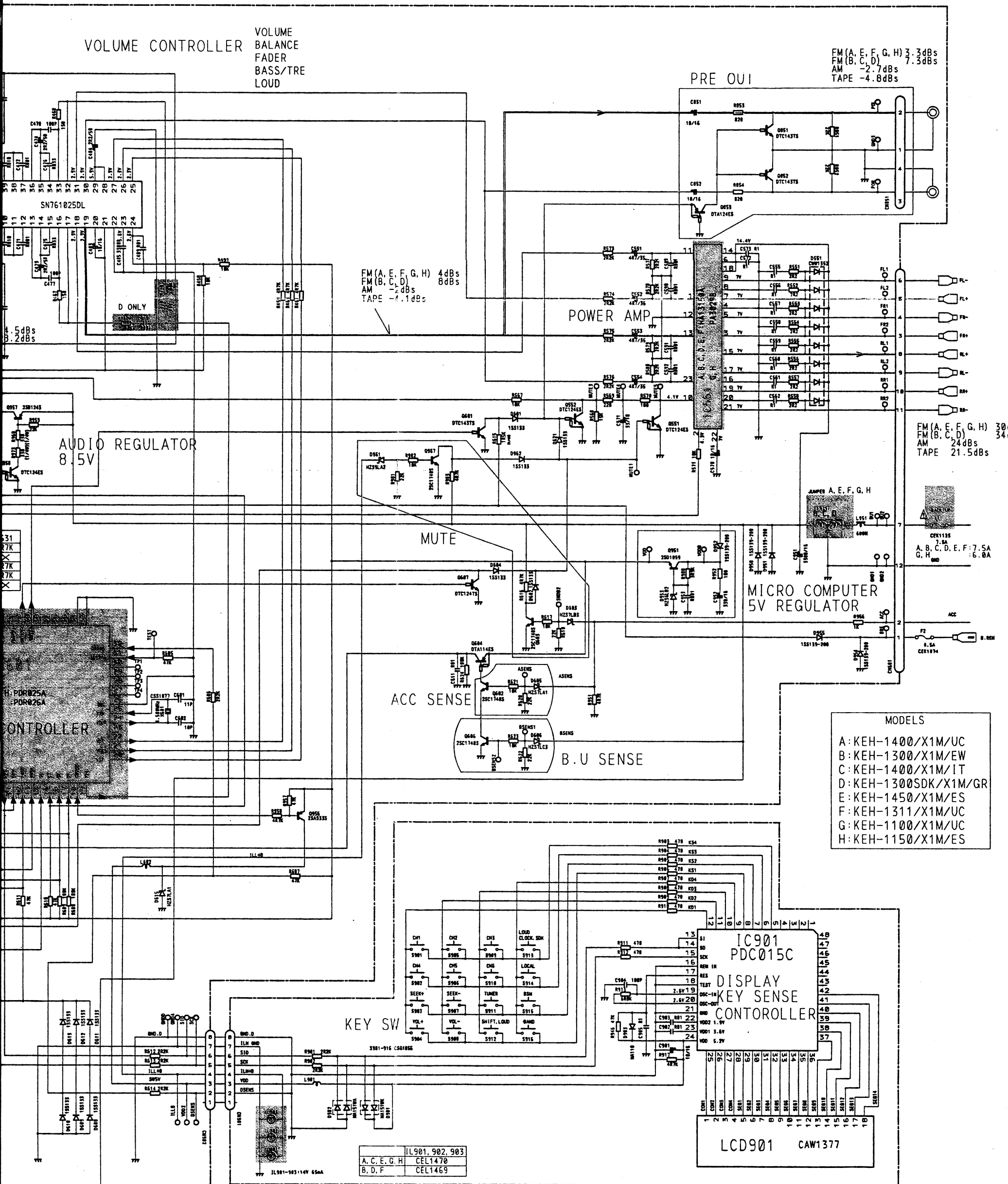
	IL901, 902, 903
A, C, E, G, H	CEL1470
B, D, F	CEL1469

NOTE:
- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resist
and capacitor fixed value
are expressed as:
2.2→2R2
0.022→R022

23 24

3 4 5 6 7



NOTE:

- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

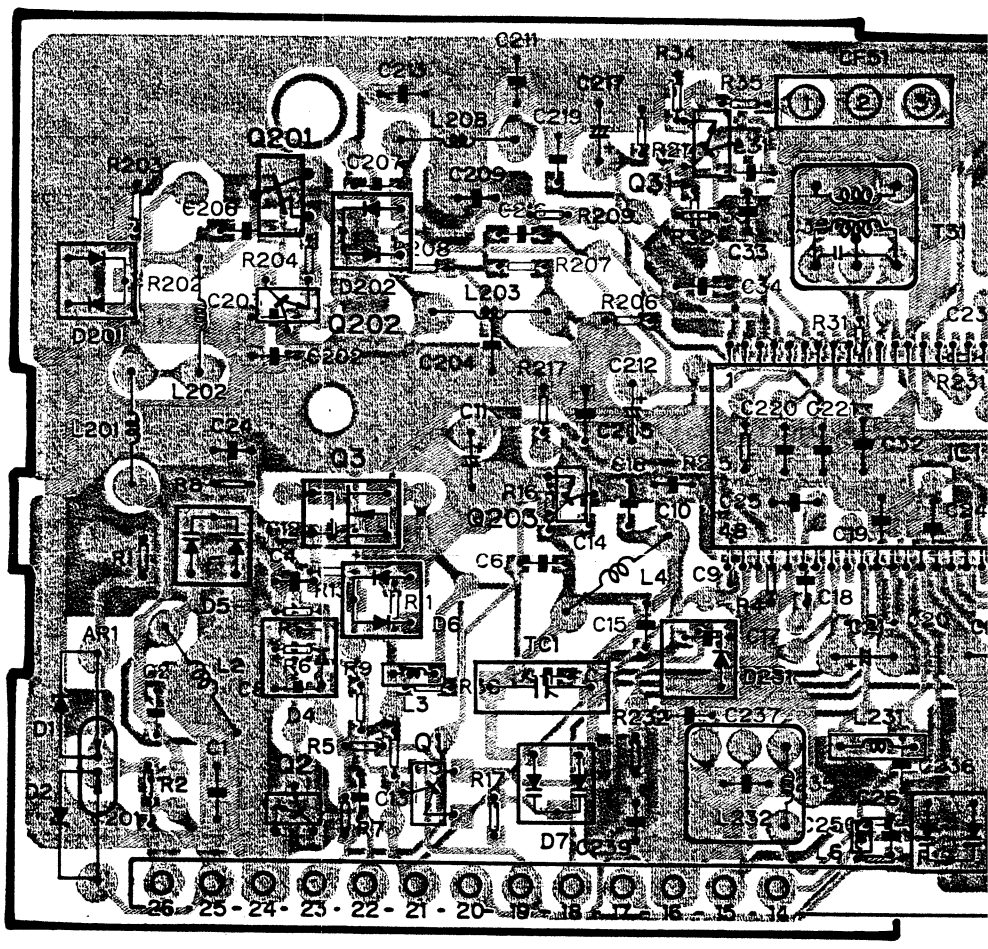
Fig. 7

12. CIRCUIT DIAGRAM AND PATTERN

12.1 FM/AM TUNER UNIT

● **Connection diagram**

IC. Q		Q201 Q202 Q2	Q3	Q1	Q203		Q31	IC1
ADJ	L2				TC1	L4	L232	T31

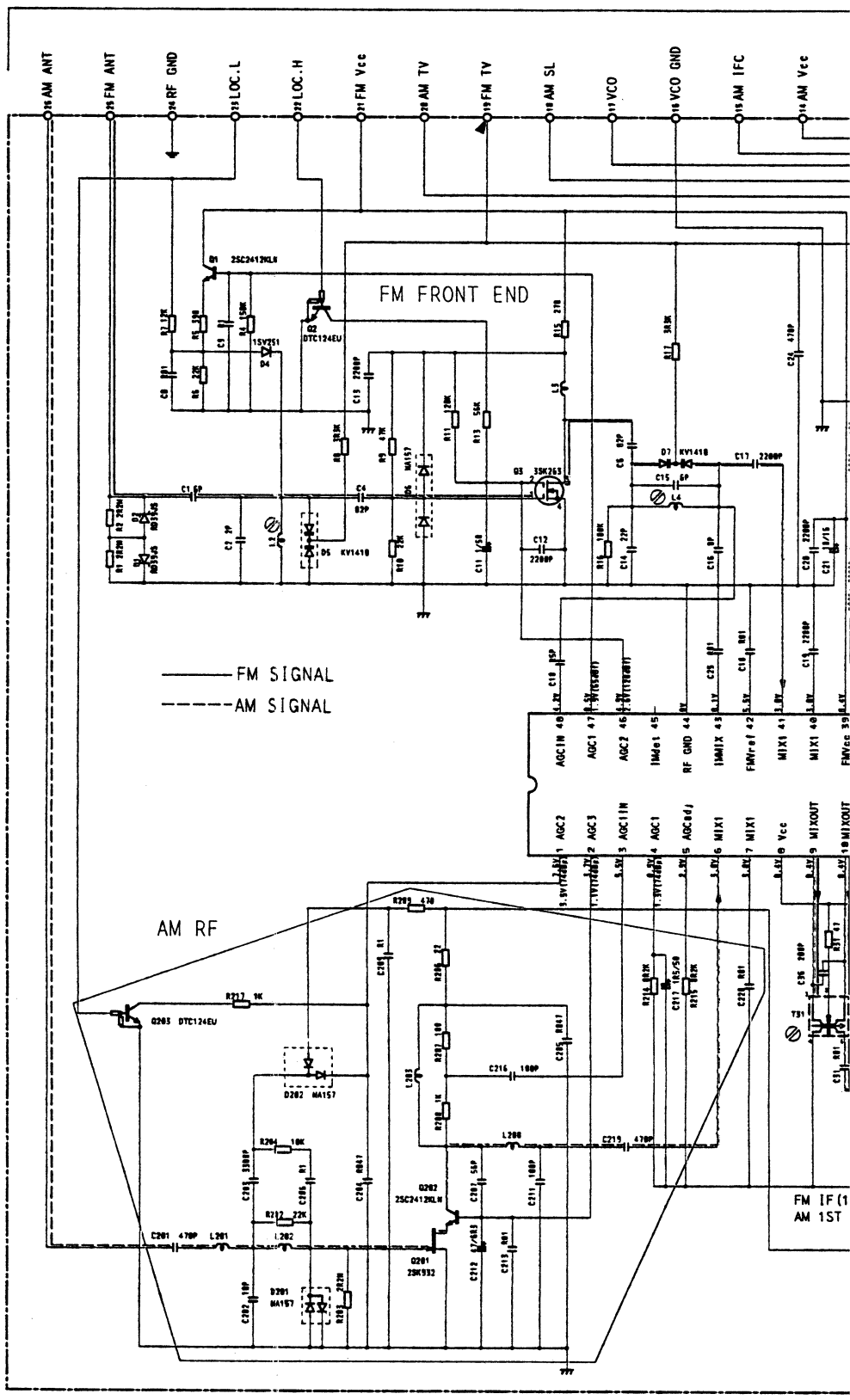


NOTE:
The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

TUNER AMP UNIT ◄

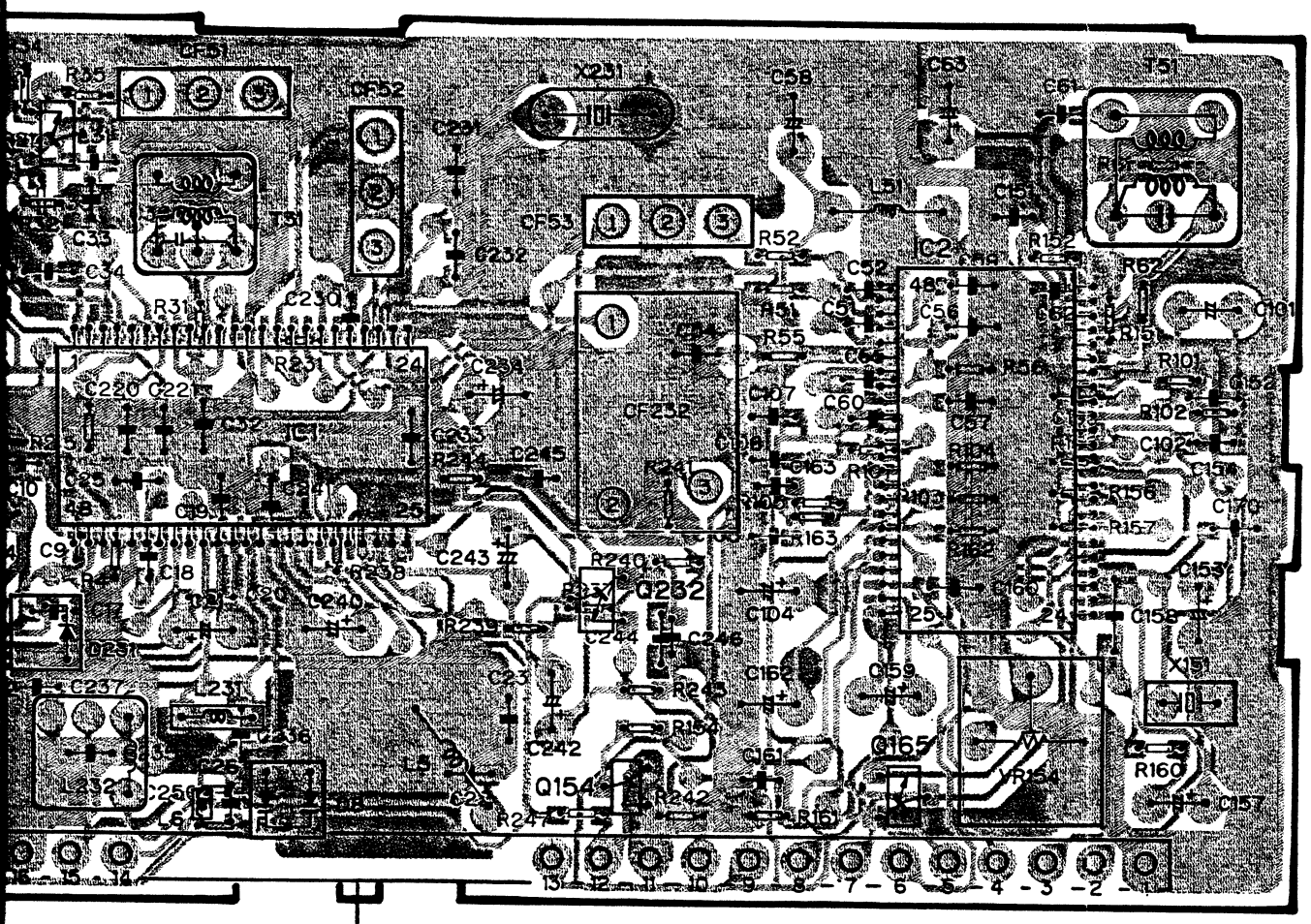
● **Circuit diagram**

(KEH-1400/X1M/UC, 1450/X1M/ES, 1311/X1M/UC, 1100/X1M/UC, 1150/X1M/ES)



Q31 IC1 Q232 Q154 Q165 IC2

L232 T31 L5 VR154 T51



● **Circuit diagram**

(KEH-1300/X1M/EW, 1300SDK/X1M/GR, 1400/X1M/IT)

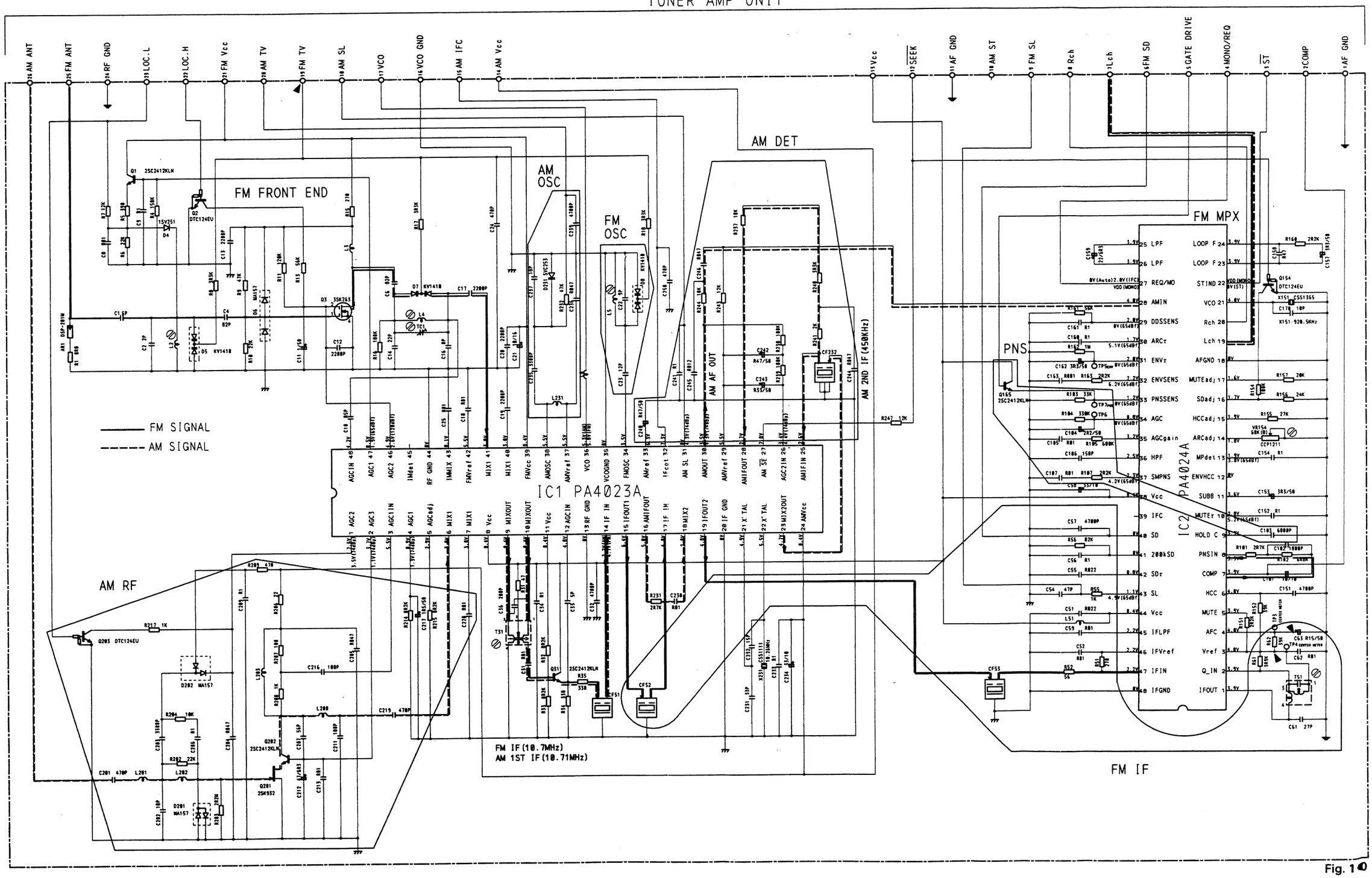


Fig. 10

13. EXPLODED VIEW AND PARTS LIST

13.1 CHASSIS

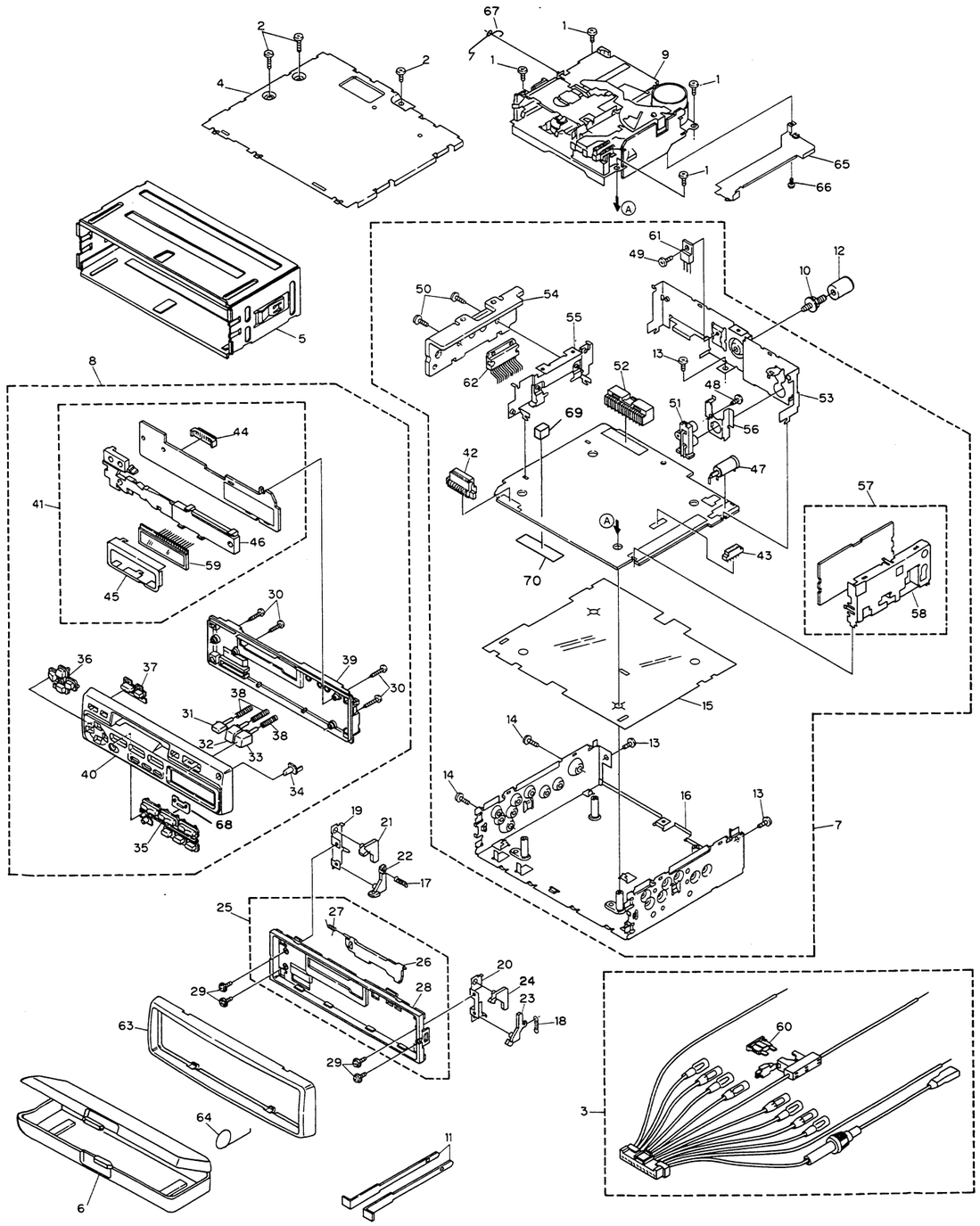


Fig. 11

NOTE:

◐ Parts marked by " * "are generally unavailable because they are not in our Master Spare Parts List.

◐ **Parts List(KEH-1400/X1M/UC)**

Mark	No.	Description	Part No.
	1	Screw	BSZ26P050FMC
	2	Screw	BSZ30P100FMC
	3	Cord Assy	CDE4951
	4	Case	CNB2010
	5	Holder	CNC5394
	6	Detach Case	CNS3860
	7	Tuner Amp Assy	CWM4583
	8	Detach Grille Assy	CXA8545
	9	Cassette Mechanism Unit	EXK3435
	10	Screw	CBA1304
	11	Handle	CNC5395
	12	Bush	CNV3930
	13	Screw	BSZ30P060FMC
	14	Screw	BSZ30P100FMC
	15	Insulator	CNM4625
	16	Chassis Unit	CXA8558
	17	Spring	CBH1834
	18	Spring	CBH1835
	19	Bracket	CNC6135
	20	Bracket	CNC6136
	21	Arm	CNV4358
	22	Arm	CNV4359
	23	Arm	CNV4437
	24	Arm	CNV4676
	25	Panel Unit	CXA8605
	26	Door	CAT1762
	27	Spring	CBH1838
*	28	Panel	CNS3768
	29	Screw	PMS20P030FZK
	30	Screw	BPZ20P120FZK
	31	Button(⏏)	CAC4613
	32	Button(◁◁)	CAC4614
	33	Button(▷▷)	CAC4615
	34	Button(⌂)	CAC4612
	35	Button(1,2,3,4,5,6,S)	CAC4616
	36	Button(◁,▷,+,-)	CAC4617
	37	Button(TUNER,BAND)	CAC4714
	38	Spring	CBH1836
	39	Cover	CNS3822
	40	Grille	CNS3832
	41	Key Board Unit	CWM4585
	42	Connector(CN902)	CKS2884
	43	Connector(CN604)	CKS3362
	44	Connector(CN901)	CKS2883
	45	Holder	CNC6314
	46	Conductor	CNV4442
	47	Antenna Jack(CN501)	CKX1006
	48	Screw	BPZ26P060FMC
	49	Screw	BSZ26P060FMC
	50	Screw	BSZ26P080FMC
	51	Pin Jack(CN851)	CKB1028
	52	Plug(CN601)	CKM1226
	53	Panel	CNB2014
	54	Heat Sink	CNC6217
	55	Holder	CNC6372
	56	Holder	CNC6531
	57	FM/AM Tuner Unit	CWE1417
	58	Holder	CNC6555
	59	LCD	CAW1377
	60	Auto Fuse(7.5A)	CEK1135
	61	Transistor(Q959)	2SD2395
	62	IC(IC551)	HA13150A
	63	Panel	CNS3862
	64	Spring	CBH1650
	65	Cover	ENC1452
	66	Screw	BSZ23P050FMC
	67	Spring	EBH1585
	68	·····	
	69	Spacer	CNM4919
	70	Spacer	CNM4921

● The KEH-1300/X1M/EW, KEH-1300SDK/X1M/GR, KEH-1400/X1M/IT, KEH-1450/X1M/ES, KEH-1311/X1M/UC, KEH-1100/X1M/UC and KEH-1150/X1M/ES Parts Lists enumerate the parts which differ from those enumerated in the KEH-1400/X1M/UC Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The KEH-1400/X1M/UC Parts List is given on page 31.

Mark No.	Description	1400/X1M/UC Part No.	1450/X1M/ES Part No.	1311/X1M/UC Part No.	1100/X1M/UC Part No.	1150/X1M/ES Part No.
3	Cord Assy	CDE4951	CDE4951	CDE4951	CDE4908	CDE4908
7	Tuner Amp Assy	CWM4583	CWM4592	CWM4586	CWM4589	CWM4595
8	Detach Grille Assy	CXA8545	CXA8551	CXA8547	CXA8549	CXA8553
9	Cassette Mechanism Unit	EXK3435	EXK3435	EXK3435	EXK3415	EXK3415
25	Panel Unit	CXA8605	CXA8605	CXA8605	CXA8845	CXA8845
40	Grille	CNS3832	CNS3834	CNS3833	CNS3835	CNS3836
41	Key Board Unit	CWM4585	CWM4594	CWM4588	CWM4591	CWM4597
60	Auto Fuse(7.5A)	CEK1135	CEK1135	CEK1135	·····	·····
62	IC(IC551)	HA13150A	HA13150A	HA13150A	PA3029B	PA3029B

Mark No.	Description	1400/X1M/UC Part No.	1300/X1M/EW Part No.	1400/X1M/IT Part No.	1300SDK/X1M/GR Part No.
3	Cord Assy	CDE4951	CDE4950	CDE4950	CDE4950
7	Tuner Amp Assy	CWM4583	CWM4577	CWM4577	CWM4580
8	Detach Grille Assy	CXA8545	CXA8538	CXA8540	CXA8542
16	Chassis Unit	CXA8558	CXA8558	CXA8558	CXA8662
25	Panel Unit	CXA8605	CXA8837	CXA8838	CXA8837
31	Button(⏏)	CAC4613	CAC4531	CAC4613	CAC4531
32	Button(⏮)	CAC4614	CAC4532	CAC4614	CAC4532
33	Button(⏭)	CAC4615	CAC4533	CAC4615	CAC4533
34	Button(⏏)	CAC4612	CAC4539	CAC4612	CAC4539
35	Button(1,2,3,4,5,6,S)	CAC4616	CAC4591	CAC4616	CAC4591
36	Button(◁,▷,+,-)	CAC4617	CAC4592	CAC4617	CAC459
37	Button(TUNER,BAND)	CAC4714	CAC4593	CAC4714	CAC4593
39	Cover	CNS3822	CNS3767	CNS3822	CNS3767
40	Grille	CNS3832	CNS3830	CNS3831	CNS3821
41	Key Board Unit	CWM4585	CWM4579	CWM4711	CWM4582
57	FM/AM Tuner Unit	CWE1417	CWE1416	CWE1416	CWE1416
63	Panel	CNS3862	·····	·····	·····
64	Spring	CBH1650	·····	·····	·····

13.2 CASSETTE MECHANISM UNIT

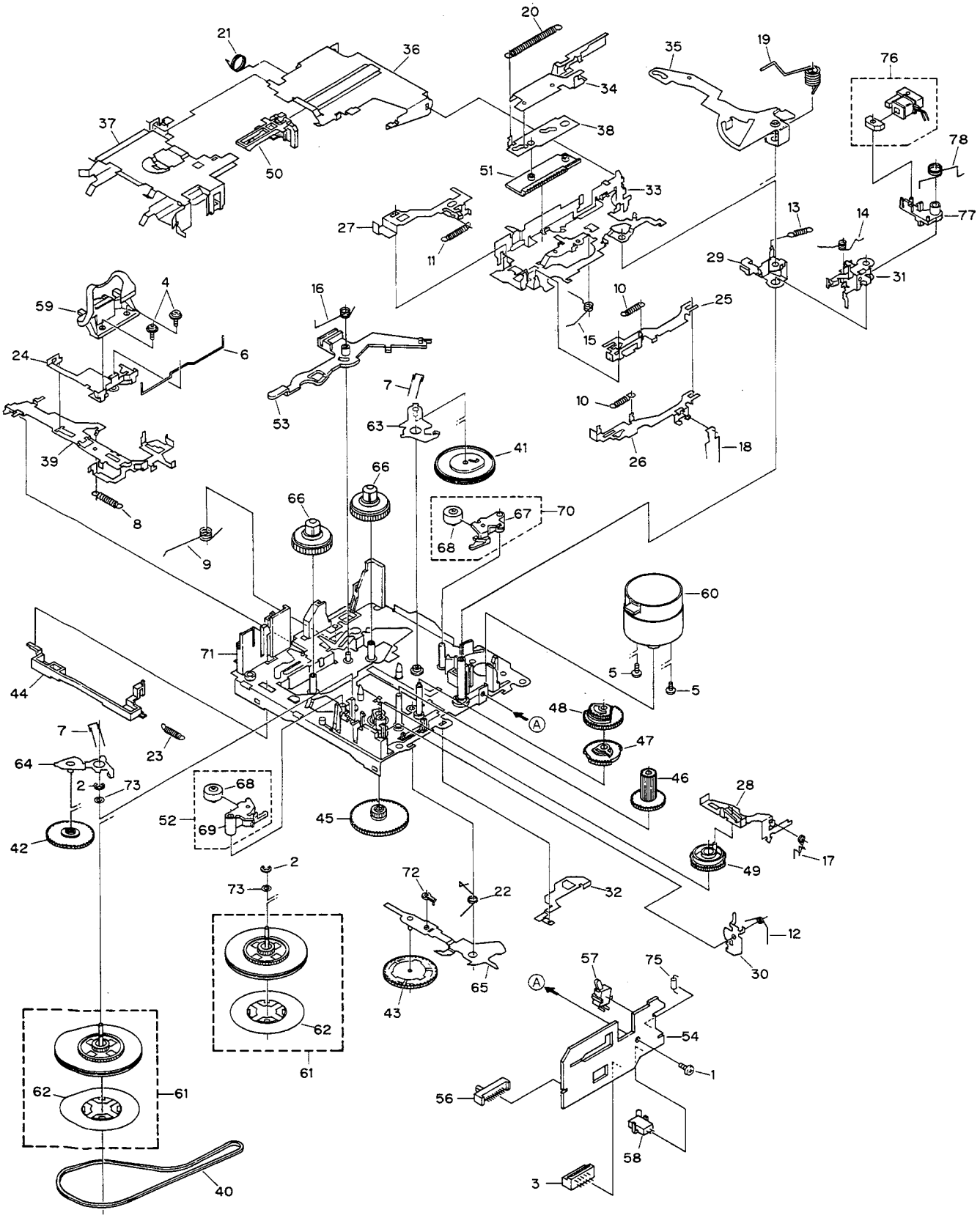


Fig. 12

● **Parts List**

Mark No.	Description	Part No.
1	Screw	BSZ23P050FMC
2	Washer	CBG1003
3	Connector(CN1)	CKS2829
4	Screw(M2x5)	EBA1028
5	Screw(M2x2.5)	EBA1037
6	Spring	EBH1554
7	Spring	EBH1555
8	Spring	EBH1556
9	Spring	EBH1557
10	Spring	EBH1558
11	Spring	EBH1559
12	Spring	EBH1560
13	Spring	EBH1561
14	Spring	EBH1562
15	Spring	EBH1563
16	Spring	EBH1564
17	Spring	EBH1565
18	Spring	EBH1566
19	Spring	EBH1567
20	Spring	EBH1568
21	Spring	EBH1569
22	Spring	EBH1571
23	Spring	EBH1579
24	Head Base	ENC1428
25	Lever	ENC1429
26	Lever	ENC1430
27	Lever	ENC1431
28	Lever	ENC1432
29	Arm	ENC1433
30	Arm	ENC1434
31	Arm	ENC1435
32	Arm	ENC1451
33	Bracket	ENC1437
34	Lever	ENC1438
35	Arm	ENC1439
36	Frame	ENC1440
37	Holder	ENC1441
38	Lever	ENC1446
39	Lever	ENC1454
40	Belt	ENT1027
41	Gear	ENV1469
42	Gear	ENV1470
43	Gear	ENV1471
44	Lever	ENV1472
45	Gear	ENV1474
46	Gear	ENV1475
47	Gear	ENV1493
48	Gear	ENV1477
49	Gear	ENV1478
50	Lever	ENV1480
51	Lever	ENV1487
52	Roller Unit	EXA1461
53	Arm	ENV1489
54	P.C.Board	ENP1148
55	•••••	
56	Switch(FWD/REV)(S3)	ESH1006
57	Switch(Load)(S1)	ESN1016
58	Switch(Mute)(S2)	ESN1017
59	Head Assy(HD1)	EXA1443
60	Motor Unit(M1)	EXA1444
61	Flywheel Unit	EXA1468
62	Plate	ENC1423
63	Arm Unit	EXA1447
64	Arm Unit	EXA1448
65	Arm Unit	EXA1449
66	Reel Unit	EXA1450
67	Pinch Holder	ENV1466
68	Pinch Roller	ENV1488
69	Pinch Holder	ENV1467
70	Roller Unit	EXA1460
71	Chassis Unit	EXA1465
72	Service Arm	EXX1048
73	Washer	HBF-179
74	•••••	
75	Diode(D1) (Except for KEH-1100/X1M/UC, 1150/X1M/ES)	1SR-35-100A
76	Solenoid(SO1) (Except for KEH-1100/X1M/UC, 1150/X1M/ES)	EXP1012
77	Arm (Except for KEH-1100/X1M/UC, 1150/X1M/ES)	ENV1491
78	Spring (Except for KEH-1100/X1M/UC, 1150/X1M/ES)	EBH1582

14. PACKING METHOD

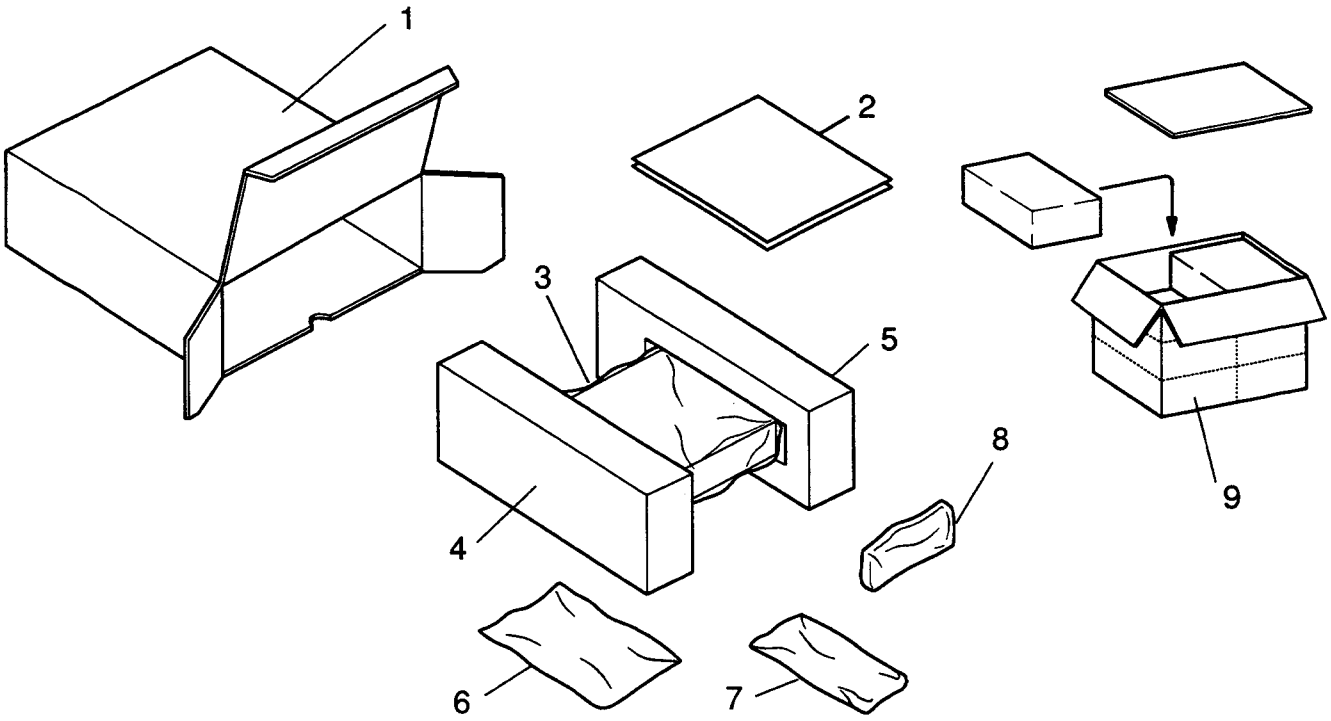


Fig. 13

● Parts List

Mark No.	Description	KEH-1400/X1M/UC Part No.	KEH-1450/X1M/ES Part No.	KEH-1311/X1M/UC Part No.	KEH-1100/X1M/UC Part No.	KEH-1150/X1M/ES Part No.
1	Carton	CHG2907	CHG2911	CHG2915	CHG2927	CHG2931
2	Owner's Manual	CRD1968	CRD1969	CRD1968	CRD1968	CRD1969
3	Polyethylene Bag	CEG1173	CEG-162	CEG1173	CEG1173	CEG-162
4	Protector(L)	CHP1607	CHP1607	CHP1607	CHP1607	CHP1607
5	Protector(R)	CHP1606	CHP1606	CHP1606	CHP1606	CHP1606
6	Accessory Assy	CEA2002	CEA2002	CEA2002	CEA2002	CEA2002
7	Cord Assy	CDE4951	CDE4951	CDE4951	CDE4908	CDE4908
8	Detach Case	CNS3860	CNS3860	CNS3860	CNS3860	CNS3860
9	Contain Box	CHL2907	CHL2911	CHL2915	CHL2927	CHL2931

Mark No.	Description	KEH-1300/X1M/EW Part No.	KEH-1400/X1M/IT Part No.	KEH-1300SDK/X1M/GR Part No.
1	Carton	CHG2895	CHG2903	CHG2899
2-1	Owner's Manual	CRD1965	·····	CRD1967
2-2	Owner's Manual	CRD1966	CRD1966	·····
2-3	Warranty Card	CRY1087	CRY1087	CRY1087
* 2-4	Passport	·····	·····	CRY1013
3	Polyethylene Bag	CEG-162	CEG-162	CEG-162
4	Protector(L)	CHP1607	CHP1607	CHP1607
5	Protector(R)	CHP1606	CHP1606	CHP1606
6	Accessory Assy	CEA1917	CEA1917	CEA1917
7	Cord Assy	CDE4950	CDE4950	CDE4950
8	Detach Case	CNS3860	CNS3860	CNS3860
9	Contain Box	CHL2895	CHL2903	CHL2899

● Owner's Manual

Part No.	Model	Language
CRD1968	KEH-1400/X1M/UC KEH-1311/X1M/UC KEH-1100/X1M/UC	English,French,Spanish
CRD1969	KEH-1450/X1M/ES KEH-1150/X1M/ES	English,French,Spanish,Arabic
CRD1965	KEH-1300/X1M/EW	English,Spanish,German,French
CRD1966	KEH-1300/X1M/EW KEH-1400/X1M/IT	Italian,Dutch
CRD1967	KEH-1300SDK/X1M/GR	German,French

● Accessory Assy

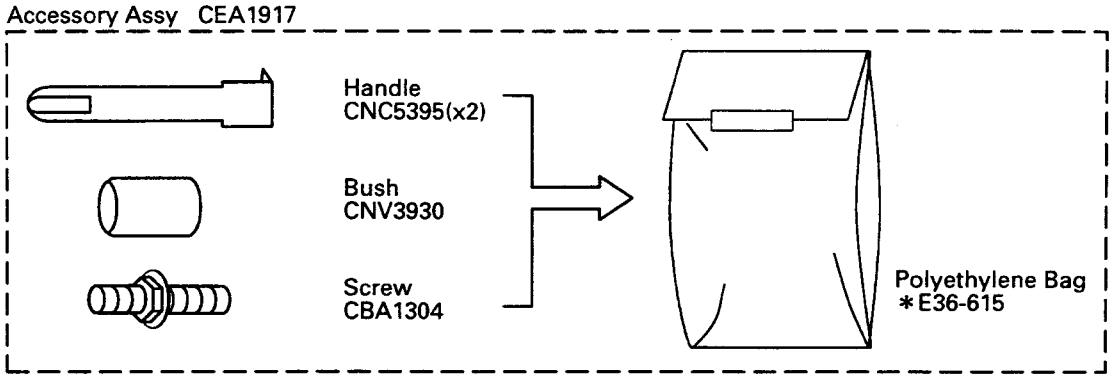


Fig. 14

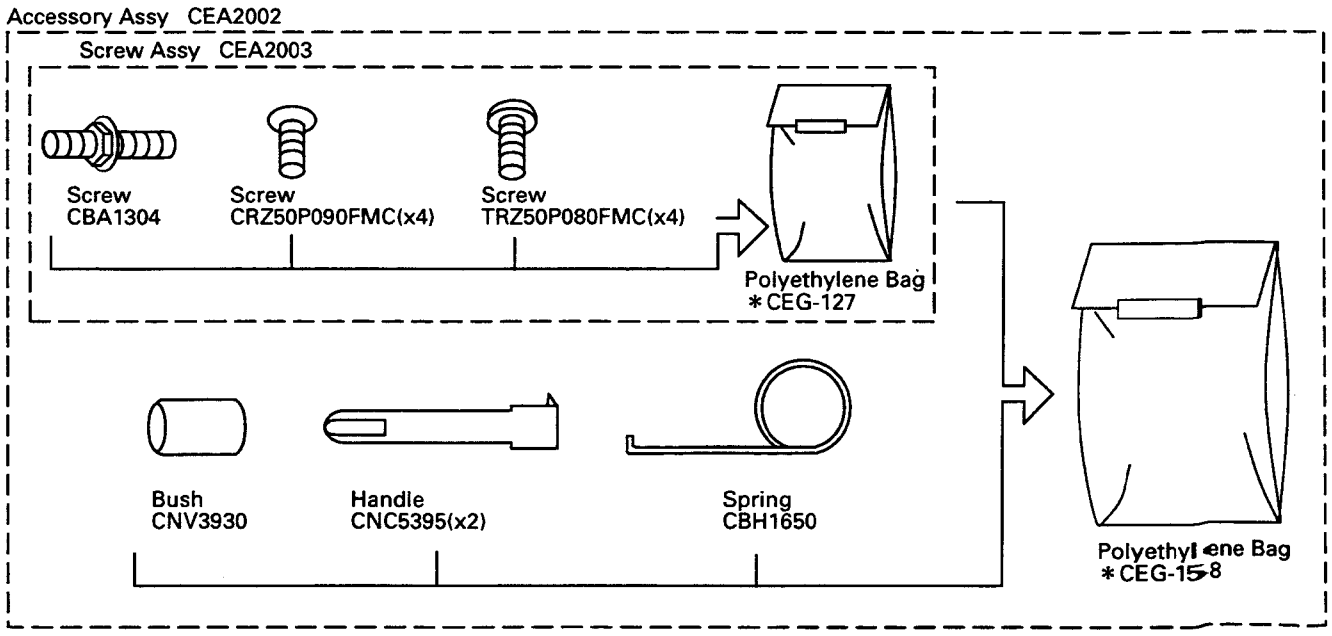


Fig. 15